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December 12, 2000

Mr. Mark Ader, Task Monitor
United States Environmental Protection Agency
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Seattle, WA 98101

RE: Contract 68-W6-0008; Technical Direction Document No. 00-01-0013

Dear Mr. Ader:

Enclosed please find three copies of the final Non-Sampling Site Inspection report for the Metlakatla Indian Community site located on Annette Island, Alaska. If you have any questions regarding this report, please call me at (206) 624-9537.

Sincerely,

ECOLOGY AND ENVIRONMENT, INC.

Annette Franzen
START Project Leader

Enclosures

cc: Sharon Nickels, EPA, START Project Officer, Seattle, WA, ECL-116 (letter only)
David Byers, START Program Manager, E & E, Seattle, WA (letter only)
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**Metlakatla Indian Community Site
Non-Sampling Site Inspection
Annette Island, Alaska
TDD: 00-01-0013**

Contract: 68-W6-0008
December 2000

Region 10
START

Superfund Technical Assessment and Response Team

Submitted To: Mark Ader, Task Monitor
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1200 Sixth Avenue
Seattle, WA 98101

**METLAKATLA INDIAN COMMUNITY SITE
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA**

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LIST OF ACRONYMS

<u>Acronym</u>	<u>Definition</u>
AACS	Army Airway Communication System
ACM	asbestos-containing material
ACS	Alaska Communication System
ADEC	Alaska Department of Environmental Conservation
ADFG	Alaska Department of Fish and Game
Alascom	Alascom, Inc.
ALS	Approach Lighting System
Army	United States Army
ASTs	aboveground storage tanks
ATCT	Air Traffic Control Tower
bgs	below ground surface
BIA	Bureau of Indian Affairs
BNA	base/neutral and acid extractable organic compounds
BSA	Brownfields site assessment
BTEX	benzene, toluene, ethylbenzene, and xylenes
C3	Coordinated Comprehensive Cleanup
CAA	Civil Aeronautics Administration
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
cfs	cubic feet per second
CWA	Clean Water Act
DDD	dichlorodiphenyldichloroethane
DDT	dichlorodiphenyltrichloroethane
DERP	Defense Environmental Restoration Program
DF	directional finder
DoD	United States Department of Defense
DOI	United States Department of the Interior
DRO	diesel-range organics
E & E	Ecology and Environment, Inc.

LIST OF ACRONYMS (CONTINUED)

<u>Acronym</u>	<u>Definition</u>
ECI	environmental compliance investigation
EPA	United States Environmental Protection Agency
ESI	expanded site investigation
°F	degrees Fahrenheit
FAA	Federal Aviation Administration
FUDS	Formerly Used Defense Site
GPS	Global Positioning System
GRO	gasoline-range organics
GS	Glide Slope
IC	interim cleanup
IPHC	International Pacific Halibut Commission
LRI	limited remedial investigation
µg/100cm ²	micrograms per 100 square centimeters
µg/kg	micrograms per kilogram
µg/L	micrograms per liter
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
MIC	Metlakatla Indian Community
MOU	memorandum of understanding
MP & L	Metlakatla Power and Light
mph	miles per hour
MSL	mean sea level
NDB	Non-Directional Radio Beacon
NMFS	National Marine Fisheries Service
NSSI	non-sampling site inspection
NWB	National Weather Bureau
OSHA	Occupational Safety and Health Administration
PA	preliminary assessment
PAA	Pan American Airlines

LIST OF ACRONYMS (CONTINUED)

<u>Acronym</u>	<u>Definition</u>
PAHs	polynuclear aromatic hydrocarbons
PCBs	polychlorinated biphenyls
PNA/WA	Pacific Northern Airlines/Western Airlines
POL	petroleum, oil, and lubricants
ppm	parts per million
PRGs	preliminary remedial goals
RCAG	Remote Communications Air-Ground
REI	Ridolfi Engineers, Inc.
RI	remedial investigation
RRO	residual-range organics
SALSR	Short Approach Lighting System Runway End Identification Lights
SHPO	State Historic Preservation Office
SMS	Southeast Management Services
START	Superfund Technical Assessment and Response Team
SVOCs	semivolatile organic compounds
TAL	Target Analyte List
TDL	Target Distance Limit
TPHs	total petroleum hydrocarbons
USACE	United States Army Corps of Engineers
USAED	United States Army Engineer District
USAF	United States Air Force
USCG	United States Coast Guard
USFWS	United States Fish and Wildlife Service
USN	United States Navy
USTs	underground storage tanks
VOCs	volatile organic compounds
VORTAC	Very High Frequency Omnidirectional Range Tactical Aircraft Control and Navigation
WAS	White Alice Station
WW II	World War II

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**METLAKATLA INDIAN COMMUNITY SITE
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA**

1. INTRODUCTION

Ecology and Environment, Inc. (E & E) has been tasked by the United States Environmental Protection Agency (EPA) to provide technical support for the completion of a non-sampling site inspection (NSSI) at the Metlakatla Indian Community (MIC) site located on Annette Island, Alaska. E & E completed NSSI activities under Technical Directive Document No. 00-01-0013, issued under EPA, Region 10, Superfund Technical Assessment and Response Team (START) Contract No. 68-W6-0008. This NSSI has four primary goals:

- Compile existing analytical data to characterize the potential sources discussed in Section 3.0;
- Determine off-site migration of contaminants;
- Provide the EPA with adequate information to determine whether the site is eligible for placement on the National Priorities List; and
- Document any threat or potential threat to public health or the environment posed by the site.

Completion of this investigation included reviewing site information, determining regional characteristics, collecting receptor information within the site's range of influence, determining the need for further sampling, and producing this report.

This document includes general background and target information (Section 2); specific site descriptions and contaminants (Section 3); categorization of sites based on contaminants, pathways, and targets (Section 4); and references (Section 5).

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2. SITE BACKGROUND

This section describes the site location (Section 2.1), general island history (Section 2.2), and regional conditions and general target information (Section 2.3).

2.1 SITE LOCATION

Site Name: Metlakatla Indian Community (MIC)

CERCLIS ID No.: AK3690500167

Location: Metlakatla, Alaska

Legal Description: Township 78S, Range 92E, Sections 16, 17, 18, 20, 21, 28, 29, 30, 31, 32, and 33; Township 78S, Range 92E, Sections 3, 4, 5, 6, 7, 8, 9, 10, 16, 17, 18, 19, and 20; Township 78S, Range 91E, Section 36; and Township 79S, Range 91E, Sections 12 and 13, Copper River Meridian

Site Area: 16.7 square miles (10,700 acres)

Congressional District: Alaska

Site Owner:

- MIC
- P.O. Box 3
- Metlakatla, Alaska 99926
- Federal Aviation Administration (FAA)
- 222 West 7th Avenue, #14
- Anchorage, Alaska 99513-7587
- United States Army Engineer District (USAED), Alaska
- P.O. Box 898
- Anchorage, Alaska 99506-0898
- United States Coast Guard (USCG)
- Civil Engineering Unit
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2.2 ANNETTE ISLAND GENERAL HISTORY

The northernmost tip of Annette Island is located 10 miles southeast of Ketchikan, Alaska (Figure 2-1). The island is bordered by Revillagigedo Channel to the north and east, Nichols Passage to the west, and Felice Strait to the south. The Metlakatla Peninsula is located at the southwest corner of Annette Island; the peninsula accounts for approximately one sixth of the island's surface area. The town of Metlakatla is located on the north end of the peninsula, along the shores of Port Chester.

The Metlakatla Peninsula contains an abundance of historic and current government facilities, many of which were constructed as a result of World War II (WW II) activities in Alaska. Most of these sites are no longer operable and have been abandoned, although some sites remain in operation and are the responsibility of numerous agencies and organizations including the FAA, BIA, USCG, National Weather Bureau (NWB), and MIC. Jurisdiction and responsibility for each government facility is complicated due to numerous ownership transfers over time, shared site usage by multiple agencies, and poor property and ownership transfer records. Also, exact site operations and the presence of hazardous

materials at each facility are often unknown or not clearly understood because of limited documentation or contradictory information from multiple sources such as government agencies, previous facility personnel, or local information.

Most former military facilities on Annette Island were somehow related to operations at the airfield constructed on the island to support WW II efforts. The following information serves as a brief history of airfield construction and operation in which numerous sites are briefly described and their relation to airfield operations are identified. During the 1930s, the Civil Aeronautics Administration (CAA) surveyed and evaluated the Metlakatla Peninsula for potential airfield construction. In 1940, the War Department obtained a use permit from the United States Department of the Interior (DOI) for 10,728 acres to build the United States Army Air Corps WW II facility and a naval facility; subsequently, numerous other military organizations utilized the facilities constructed on the peninsula. By 1942, the War Department obtained two additional leases for water supplies: the 1,314-acre Lake Nold watershed and the 767-acre Yellow Lake watershed. The United States Army Corps of Engineers (USACE) designed and supervised the construction with labor provided by the Civilian Conservation Corps, the United States Forest Service, the CAA, military troops, and private contractors. Completed in 1942, the 7,000-personnel facility included the United States Navy (USN) facility at Tamgas Harbor (seaplane ramp, plane revetments, 6-inch naval gun emplacements, tank farm, and housing), the Royal Canadian Air Force (light and heavy aircraft, Bren guns, and 50 bombers and fighters), the Canadian Army (infantry training), the United States Army Air Corps (airfield, hangar, bombers, and fighters), and the Army Infantry (coastal batteries and antiaircraft panama mounts). Approximately 6 miles of pipeline and 35 fuel tanks totaling 1 million gallons of storage capacity were installed during the initial construction. (FAA 1997)

The hangar facility servicing the United States Army Air Corps included the hangar and associated structures, air navigation and airport control aids, fuel aboveground storage tanks (ASTs), the boiler building, and an equipment maintenance building (Eberhardt 1988; FAA 1997).

The USN occupied the naval facility at Tamgas Harbor from 1942 to 1949. In 1944, the USCG, under USN wartime command, commissioned an air detachment and joined the USN operation at Tamgas Harbor. The USN personnel left the island in 1949 and sold three of their six PBY seaplane aircraft to Ellis Airlines, which flew the aircraft commercially from both the Tamgas Harbor dock and the Annette Island Airport. (FAA 1997)

In 1946, the War Department turned the Annette Airport/Hangar Facility (renamed Annette Island Airport) operation over to the CAA. The CAA began to sell surplus United States Army (Army)

aviation fuel to 19 private airline companies operating at the Annette Island Airport. However, it is unclear whether the CAA personnel fueled Army, USCG, or USN aircraft and how much of the original fuel system they utilized. In 1947, Standard Oil Company leased 26 fuel tanks from the Army, including five 25,000-gallon underground storage tanks (USTs) and fifteen 50,000-gallon ASTs north of the runway (Figure 2-3). The fuel pipeline and storage system was transferred to the CAA in 1948, and Standard Oil Company began to lease fuel tanks and other buildings from the CAA. In 1949, Standard Oil Company moved most of its leased ASTs to the tank farm near the Tamgas Harbor dock and continued to operate this facility until the FAA (successor to the CAA) lease was transferred back to the MIC. Oil, hydraulic fluid, fuels, and other petroleum products often were shipped to Annette Island in 55-gallon drums. In 1948, the CAA paved the airport runway using an estimated ten thousand to thirty thousand 55-gallon drums of asphalt. (FAA 1997)

From 1945 to 1949, approximately 750 wartime buildings either were transferred to the USN, the DOI, the CAA, and the NWB, or were sold to Pan American Airlines (PAA). More than 450 of these buildings were transferred to the CAA. The Army relinquished its Lake Nold watershed lease in 1945 and, in 1949, relinquished its land use permits for the Annette Island airfield/naval facility and the Yellow Lake watershed; however, it is unclear to whom these lease and permits were relinquished. (FAA 1997)

In 1946, the USCG was released from USN command. Toward the end of 1947, the USCG was using shop and hangar space (Figure 2-5) for the operation of PBY aircraft and, in 1948, for JRF aircraft. In 1952, the USCG officially leased quarters buildings from the CAA, and, in 1956, it took over ownership, operation, and maintenance of the airport hangar. In 1964, the USCG added Sikorsky helicopters (HH-52A) and the amphibian Albatross (HU16E) to the Annette Island operation. Additional housing was needed because personnel increased from 20 to more than 100 between 1944 and 1964. Bachelors quarters and mess hall facilities were added near the hangar building in 1961. In 1965, twelve fourplex family units were built near the seaplane ramp in Tamgas Harbor, and, in 1968, two additional fourplex units were built adjacent to the original twelve. (FAA 1997)

The CAA and its successor, the FAA, continued to provide maintenance and air traffic control at the Annette Island Airport until the Ketchikan International Airport on Gravina Island was completed in 1974. Use of the Annette Island Airport declined substantially following the opening of the Ketchikan International Airport, and the Annette Island Airport is currently not functioning, although the runway is used occasionally. After the Ketchikan International Airport opening, the FAA turned most of the Annette Island Airport site over to the MIC. Some of the equipment and buildings were sold to either the

USCG, the NWB, or the MIC. Ownership of the hangar, housing units, and other facilities was transferred to the USCG. In 1974, the USCG leased approximately 120 acres from the MIC to support anticipated operations involving approximately 6,000 takeoffs and landings per year. (FAA 1997)

The FAA lease for the tank farm near the main dock at Tamgas Harbor (operated by Standard Oil Company) was terminated in 1974. The MIC utilized the tank farm to distribute aviation, automobile, and heating fuels. Records indicate that approximately 470,000 gallons of petroleum products were distributed to the USCG during 1974. Information regarding fuel sales to other entities or for other years is not available. The tank farm was abandoned by the MIC in 1977, and four of the 50,000-gallon ASTs were moved to the Metlakatla Power and Light (MP & L) diesel power generation plant in Metlakatla. (FAA 1997)

The USCG terminated its land lease in 1977 and moved 14 of its housing units to Sitka, Alaska. The Hangar and other remaining buildings on the USCG lease were turned over to the MIC. Today, the USCG leases 5 acres at Annette Island for a Global Positioning System (GPS) communication antenna. In addition to this 5-acre lease, the FAA retains 96 acres for three navigation aids and the NWB has three other leases on Annette Island. Two of these leases are near the hangar and are utilized for weather observation facilities and offices, and the third lease is for housing at a location approximately 2.5 miles northwest of the hangar.

After completing an environmental review in 1997, the USACE, BIA, and the FAA signed a memorandum of understanding (MOU) with the MIC to cooperatively address environmental issues associated with past governmental activities at some 93 sites on the Metlakatla Peninsula. The site locations can be found by the corresponding Coordinated Comprehensive Cleanup (C3) Plan site number on Figures 2-2 through 2-5. The C3 Plan was developed by the MOU Work Group and the USCG to outline the work needed at these sites, as well as estimate costs and schedule. The C3 Plan is included as Appendix A to this report. (MOU 1999)

2.3 METLAKATLA PENINSULA REGIONAL CONDITIONS

The Metlakatla Peninsula lies in the temperate maritime coastal climate typical of southeast Alaska; relatively warm winters, cool summers, and heavy precipitation characterize this area. Average winter temperatures range from 30 to 45 degrees Fahrenheit (°F), and summer temperatures range from 42°F to 62°F (DOC 1989). Annette Island Weather Bureau records indicate an average annual precipitation of 103 inches, which includes an average snowfall of 12 inches or less (Seymour 1996; DOC 1989). Low cloud cover, including foggy conditions and poor visibility, is present approximately

70 percent of the year (DOC 1968). Recorded wind information indicates that the mean wind speed is approximately 12 miles per hour (mph), predominantly from the south-southeast (DOC 1968). Higher winds can occur during winter storms, with sustained winds at over 30 mph common in January and February (Cohen 1988); storms with winds at over 100 mph have occurred occasionally during this period (Benson 1996).

The Metlakatla Peninsula is relatively flat (Figure 2-2). The terrain lies mostly between sea level and 100 feet above mean sea level (MSL). The landing field is located on the southcentral portion of the peninsula at 110 feet above MSL (DOC 1989). The highest point on the peninsula is at Yellow Hill (540 feet above MSL), approximately 4 miles north of the landing field. There are fairly steep slopes (25 to 42 percent) from this hill down to the adjoining areas. The slopes on the remainder of the peninsula predominantly range from 0 to 1 percent outward from the center of the peninsula toward the coastal beaches. There are numerous lakes, marshes, bogs, and other typical lowland features throughout the peninsula. The flat grades and numerous lakes were formed in part through glacial processes during the Pleistocene epoch; the last glacial retreat was nearly 10,000 years ago. Except for Canoe Cove, Village Point, and Tamgas Harbor, most of the coastline is irregular and rocky (USGS 1962).

The Metlakatla Peninsula is a marshy, heavily vegetated lowland with numerous creeks that drain ponds and lakes or originate from muskeg runoff. Yellow Lake is the largest lake, with a normal wetted area of about 75 acres. This lake is located east of and adjacent to Yellow Hill at an average elevation of 230 feet above MSL (USGS 1962). The recharge area for the lake is at a higher elevation than most of the peninsula, which limits the potential for contamination from surface runoff and allows use of lake water in a gravity-supplied drinking water system for the Metlakatla Peninsula.

Chester Lake is an approximately 72-acre lake located about 2 miles east of the town of Metlakatla and outside the peninsula. Metlakatla residents use Chester Lake for their primary potable water source. Chester Lake is also located at a higher elevation than the peninsula, which allows for potentially better water quality, as well as gravity water supply to Metlakatla. The potable water capacity for domestic purposes is approximately 1 million gallons per day. (MIC 1972)

2.3.1 Regional Geology and Hydrogeology

Annette Island is part of the northern region of an extensive coastal mountain range called the Cordilleran Range. Annette Island lies in the Wrangell-Revillagigedo belt of metamorphic rocks (Marcher 1971). The Metlakatla Peninsula is part of the Annette Island subterranean (Berg et al. 1988). The Annette subterranean comprises a heterogeneous assemblage of Ordovician or Silurian; Silurian; and

Devonian intrusive, extrusive, clastic, and carbonate rocks. The distribution of the rock types in the Metlakatla region is largely the result of several cycles of sedimentation, intrusion, metamorphism, deformation, and erosion that have taken place between Ordovician or an earlier time and the present (Yehle 1977).

Groundwater occurs in bedrock fractures in the Metlakatla Peninsula. The number, spacing, attitude, size, and interconnection of fractures, such as joints and faults, control the occurrence, storage, and movement of groundwater in bedrock. Test wells drilled in the bedrock of the Metlakatla Peninsula encountered water at several depths. Water-bearing zones have been encountered as shallow as 70 feet below ground surface (bgs) and as deep as 336 feet bgs. It was determined that bedrock wells yield insufficient capacities for sustained use as a potable water supply. Additionally, deeper wells produced brackish water under prolonged pumping. Surface seeps and small springs have been observed in ultramafic rocks along the south side of Yellow Hill (Marcher 1971).

Based on previous groundwater sampling efforts, a perched groundwater table no deeper than 8 feet bgs exists in various areas throughout the Metlakatla Peninsula. For example, at the BIA Power Generation Facility in the north central portion of the peninsula, perched groundwater was found at approximately 2 feet bgs and is likely present because of shallow bedrock outcrops at the site. At the White Alice Station (WAS), located on the northwest portion of the peninsula, and the FAA Hangar Facility, located in the south-central portion of the peninsula, perched groundwater was found at approximately 8 feet bgs and is likely associated with a confining soil layer in the muskeg bogs that dominate much of the Metlakatla Peninsula. As groundwater flows in the same general direction as the surface topography and the surface topography changes, it is possible for groundwater to discharge at the surface, indicating that shallow groundwater may be connected to nearby surface waters. (E & E 1999)

2.3.2 Regional Surface Water Conditions

The Metlakatla Peninsula is a marshy, heavily vegetated lowland generally less than 200 feet above MSL, with numerous creeks that drain ponds and lakes or originate from muskeg runoff. Wetlands dominate the landscape on the Metlakatla Peninsula. Vegetation on the peninsula primarily is composed of sedges, sphagnum moss (*Sphagnum spp.*), crowberry (*Empetrum nigrum*), Labrador tea (*Ledum dewmbens*), bog rosemary, bog laurel (*Kalmia microphylla*), isolated strands of western hemlock (*Tsuga heterophylla*), Alaska yellow cedar (*Chamaecyparis motilatensis*), and shore pine (*Pinus cintorta*). (E & E 1995a)

The dominant wetlands present on the Metlakatla Peninsula include: open water, shore pine/yellow cedar muskeg, and forested (E & E 1995a). The open water and shore pine/yellow cedar wetlands constitute a wetland complex that covers thousands of acres on the level and rolling hills of the peninsula. The forested wetlands are found in isolated inland areas and along the coast line (E & E 1995a). Digitized National Wetland Inventory maps for Annette Island are available on the United States Fish and Wildlife Service (USFWS) web page (USFWS 2000b). The START has not estimated the wetland frontage for the Metlakatla Peninsula sites listed in the C3 Plan.

Drinking water for the village of Metlakatla is supplied by Chester Lake, located approximately 2 miles east of the village (ADCED 2000). Chester Lake is hydrologically upgradient from any site sources of contamination. Yellow Lake provides water, via a 200,000-gallon tank, to the airport vicinity. No use of surface water is documented for irrigation of forage food crops, watering of commercial livestock, or in commercial food production.

No flooding has been documented for the town of Metlakatla; flood hazard is expected to be low; however, local drainage may be a problem (USAED 1993). Flooding conditions on the southern part of the peninsula are expected to be different than those at the town of Metlakatla; this area is controlled by intense local precipitation, poor drainage, and shallow groundwater. The 2-year, 24-hour rainfall event for the Annette Island area is 5 inches (Miller 1963). The average annual precipitation for Annette Island is 111.14 inches (Leslie 1989) and the estimated annual evapotranspiration is 23.70 inches (Patric and Black 1968); thus, the net annual precipitation for Annette Island is calculated to be 87.44 inches.

The Metlakatla Peninsula is drained by approximately 17 streams; most are coastal streams less than 1 mile long and are fed by lakes or small tributaries. Approximately 40 lakes exist on the Metlakatla Peninsula that either support or appear to have the ability to support populations of various sport fish species. A few thousand rainbow trout were stocked in numerous peninsula lakes in an attempt to develop a sport fishery; only rainbow trout survived in Yellow Lake two years after stocking. (USFWS 1983)

Alaska Statute requires the Alaska Department of Fish and Game (ADFG) to specify various rivers, lakes, and streams, or portions of them that are important for spawning, rearing, or migration of anadromous fishes. The ADFG periodically produces a catalog of these waters; a number of lakes and streams on Annette Island are identified as waters important for spawning, rearing, or migration of anadromous fishes (ADFG 1998). All waters on Annette Island identified in the catalog are located in the uninhabited mountainous portions of Annette Island; none are located on the Metlakatla Peninsula (ADFG 1998). The MIC does not support the ADFG determination of waters important for anadromous

fishes. The MIC Fisheries Department has completed an inventory of creeks and lakes that support anadromous fish, however, this information is not publicly available (Meyer 2000).

A fish hatchery is located on the east side of Tamgas Harbor on the Tamgas Lake/Tamgas Creek system. The hatchery significantly contributes to the number of salmon available for harvest annually. Tamgas Lake and Tamgas Creek have been identified as waters important for the spawning, rearing, or migration of anadromous fish (ADFG 1998).

The waters in the vicinity of Annette Island support commercial, subsistence, and sport fishing. Because of the large number of sites addressed in this report, no single 15-mile Target Distance Limit (TDL) for the surface water pathway could be identified. Therefore, the harvest numbers reported below are based on an estimated 15-mile TDL encompassing the Metlakatla Peninsula from Yellow Lake to Point Davison.

Sport fish harvest data is maintained by the ADFG (Howe et al. 1999). ADFG reports sport fish harvest for the Ketchikan area; the START conservatively assumes that 25 percent of the reported saltwater sport fish harvest occurs within the 15-mile TDL and that none of the reported freshwater sport fish harvest occurs in the 15-mile TDL because all harvest reported in freshwater systems is near Ketchikan. Also, sport fish harvest is reported by the number of fish, not poundage. Thus, the number of fish per species harvested within the 15-mile TDL was multiplied by the average poundage per fish for that species and these values are reported in Table 2-1. The average poundage per fish was obtained from the commercial harvest data or was assumed by the START.

Eleven salmon statistical areas and three groundfish statistical areas are located within the 15-mile TDL (McNair 2000). Commercial fish harvest data is reported in poundage and sometimes by the number of fish caught; it is maintained by ADFG. The START estimated the percentage of the ADFG statistical area within the 15-mile TDL; this percentage was multiplied by the total poundage and total number of fish harvested, if available, for each statistical area within the 15-mile TDL. The calculated harvest data for each species and statistical area was summed to obtain the total commercial harvest for that species within the 15-mile TDL. These values are reported in Table 2-1. The International Pacific Halibut Commission (IPHC) maintains commercial harvest data specifically for halibut in Alaska (Wade 2000). The IPHC statistical area 14-I, subarea 143, is located within the 15-mile TDL; this harvest data is reported in Table 2-1.

ADFG maintains a subsistence database for many Alaskan communities (Scott 1997). Subsistence harvest data is reported in different measurement units, depending on the species. All fish, marine mammal, and marine invertebrate harvest data are reported by the numbers harvested or by

poundage; these data are automatically converted in the database with local information. The START assumes that all harvest for the community of Metlakatla occurs within the 15-mile TDL; thus, the harvest data in the subsistence database is reported directly in Table 2-1. MIC residents utilize Smuggler Cove, Tamgas Harbor, Canoe Cove, and Point Davison for subsistence harvest; records of the species and poundage harvested in these areas is not maintained (Meyer 2000).

The USFWS lists five birds and one plant as threatened or endangered within the State of Alaska; none are expected in the Annette Island area (USFWS 2000a). The National Marine Fisheries Service (NMFS) lists eight marine mammals occurring in Alaska as threatened or endangered species; the humpback whale (*Megaptera novaeangliae*) and the Steller sea lion (*Eumetopias jubatus*) may occur within the 15-mile TDL. However, there are no known Steller sea lion haul-out sites or designated critical habitats for either species within the site's TDL (Payne 2000).

2.3.3 Soil and Air Pathway

The Metlakatla Peninsula is easily accessible, and residents of Metlakatla use many of the former sites for recreational purposes. A number of residences are located on site; MIC members have utilized former government housing as residences. The Weather Bureau Housing (Site 20) serves as residences for 10 people, the FAA Housing Area (Site 53) serves as residences for 18 people, and the Pacific Northern Airlines/Western Airlines (PNA/WA) Residential Building (Site 56) serves as residences for nine people (Mandan 2000). Also, numerous places of business with regular worker usage are located on site, including the BIA Road Maintenance Center (Site 7; eight workers), the WAS (Site 15; five workers), and the FAA Housing Area (Site 53; four workers; Mandan 2000). A sawmill managed by Metlakatla Forest Products formerly operated inside the Hangar Facility (Site 75); currently, the sawmill employs five people, but when the sawmill is fully operational 22 people regularly occupy the building (Mandan 2000). Because of the proximity of sites in the hangar area, sawmill workers could have contacted contaminants from Sites 67 through 79 during normal sawmill operations. The number of residents and workers at the sites listed above are unofficial, unpublished numbers provided by the MIC (Mandan 2000). No school or day-care facility is located within 200 feet of the potential sources. The community of Metlakatla, population 1,537, is located approximately 5 miles north of the Annette Island Airfield (ADCED 2000). Except for the housing areas described above, all community members reside in Metlakatla.

Based on the precipitation at Annette Island, particulate matter is unlikely to become airborne and constitute a significant contaminant migration pathway. Based on digitized wetland maps from the

USFWS (2000b), the START estimates that there are approximately 10,000 acres of wetlands on the Metlakatla Peninsula. The USFWS manages six threatened or endangered species throughout Alaska; none are expected to maintain habitat within 4 miles of the site (USFWS 2000a). No commercial agriculture or silviculture are expected or known to exist within 0.5 mile of any source area. MIC residents utilize specific picnic areas, public gathering places, and firing ranges throughout the Metlakatla Peninsula. A recreational park has been established at Smuggler Cove; Tamgas Harbor and Canoe Cove have been informally established as recreational areas (Meyer 2000). These recreational areas are within 0.5 miles of source areas.

Table 2-1 ANNUAL SPORT FISH HARVEST WITHIN THE SITE'S RANGE OF INFLUENCE METLAKATLA SITE NON-SAMPLING SITE INSPECTION ANNETTE ISLAND, ALASKA			
Species	Number Harvested	Average Poundage Per Fish	Pounds Harvested
SPORT FISH HARVEST			
Chinook Salmon (<i>Oncorhynchus tshawytscha</i>)	846	14 ^a	11,844
Coho Salmon (<i>O. kisutch</i>)	9,279	8 ^a	74,232
Sockeye Salmon (<i>O. nerka</i>)	465	6 ^a	2,790
Pink Salmon (<i>O. gorbuscha</i>)	4,770	3 ^a	14,310
Chum Salmon (<i>O. keta</i>)	3,080	10 ^a	30,800
Pacific Halibut (<i>Hippoglossus stenolepis</i>)	3,017	30 ^b	90,510
Rockfish (<i>Sebastes spp.</i>)	1,611	2 ^b	3,222
Lingcod (<i>Ophiodon elongatus</i>)	421	4 ^b	1,684
Other	57	2 ^b	114
Total Sport Harvest	23,546	-	229,506
COMMERCIAL HARVEST			
Pacific Halibut (<i>Hippoglossus stenolepis</i>)	-	-	159,729
Pacific Cod (<i>Gadus macrocephalus</i>)	-	-	1,802
Lingcod (<i>Ophiodon elongatus</i>)	-	-	54
Rockfish (<i>Sebastes spp.</i>)	-	-	13,488
Sablefish (<i>Anoplopoma fimbria</i>)	-	-	163,795
Geoduck	-	-	20,337
Red Sea Urchin	-	-	509,178
Chinook Salmon (<i>O. tshawytscha</i>)	152	-	2,125
Sockeye Salmon (<i>O. nerka</i>)	12,897	-	74,454
Coho Salmon (<i>O. kisutch</i>)	49,790	-	399,572
Pink Salmon (<i>O. gorbuscha</i>)	1,160,815	-	3,544,820
Chum Salmon (<i>O. keta</i>)	97,448	-	948,577
Total Commercial Harvest	-	-	5,837,931

Key is at the end of the table.

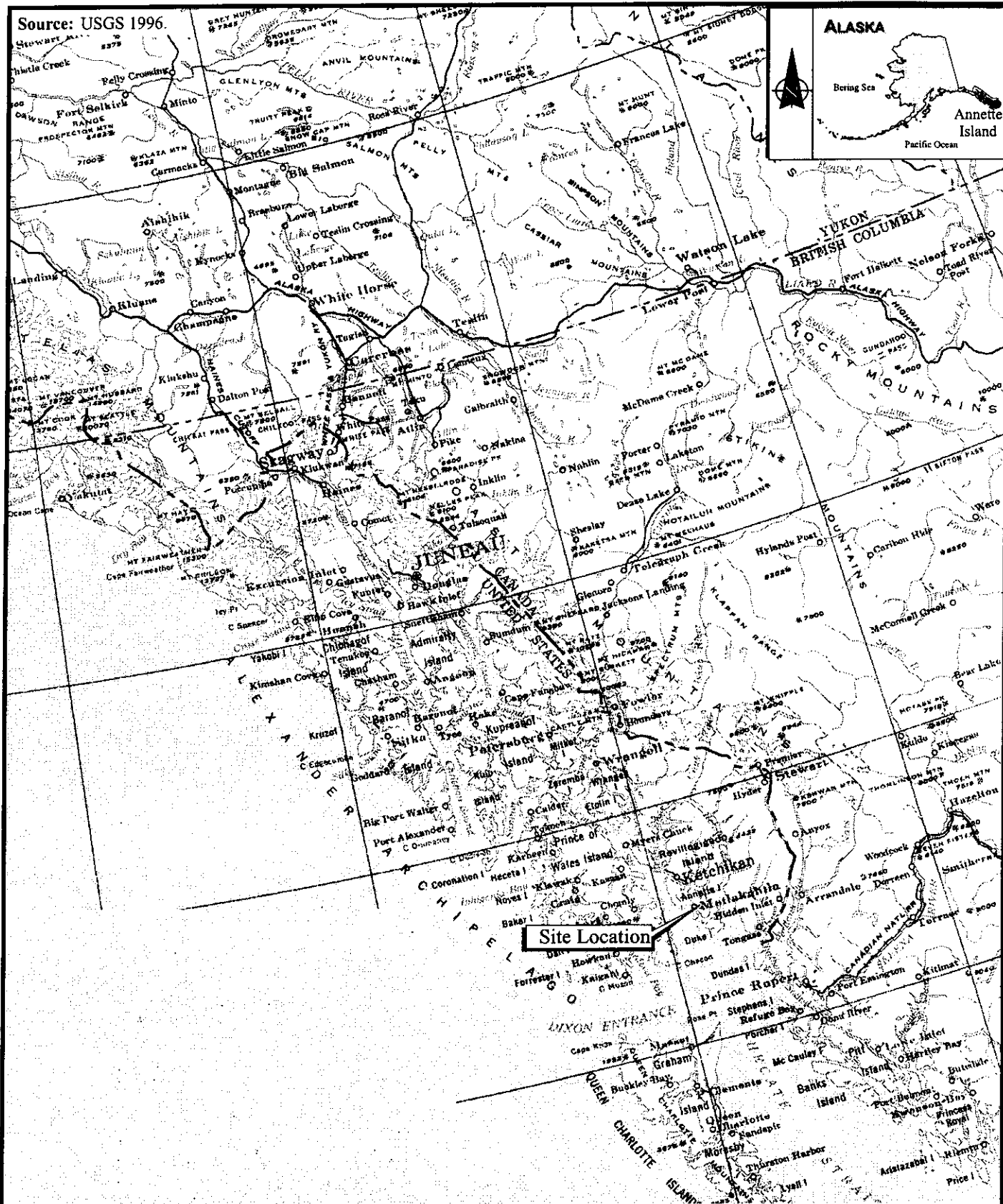
Table 2-1 (CONTINUED)			
ANNUAL SPORT FISH HARVEST WITHIN THE SITE'S RANGE OF INFLUENCE METLAKATLA SITE NON-SAMPLING SITE INSPECTION ANNETTE ISLAND, ALASKA			
Species	Number Harvested	Average Poundage Per Fish	Pounds Harvested
SUBSISTENCE HARVEST			
All Salmon	4,743	-	31,556
Non-Salmon Fish	-	-	27,016
Marine Mammals	19	-	1,298
Marine Invertebrates	-	-	22,934
Total Subsistence Harvest	-	-	82,804
Total Harvest	-	-	6,150,241

Source: Howe et al. 1999; McNair 2000; Scott 1997; Wade 2000.

^a Calculated from commercial harvest data.

^b Assumed by the START.

Source: USGS 1996.



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METLAKATLA
INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
Annette Island, Alaska

0 40 80
Approximate Scale in Miles

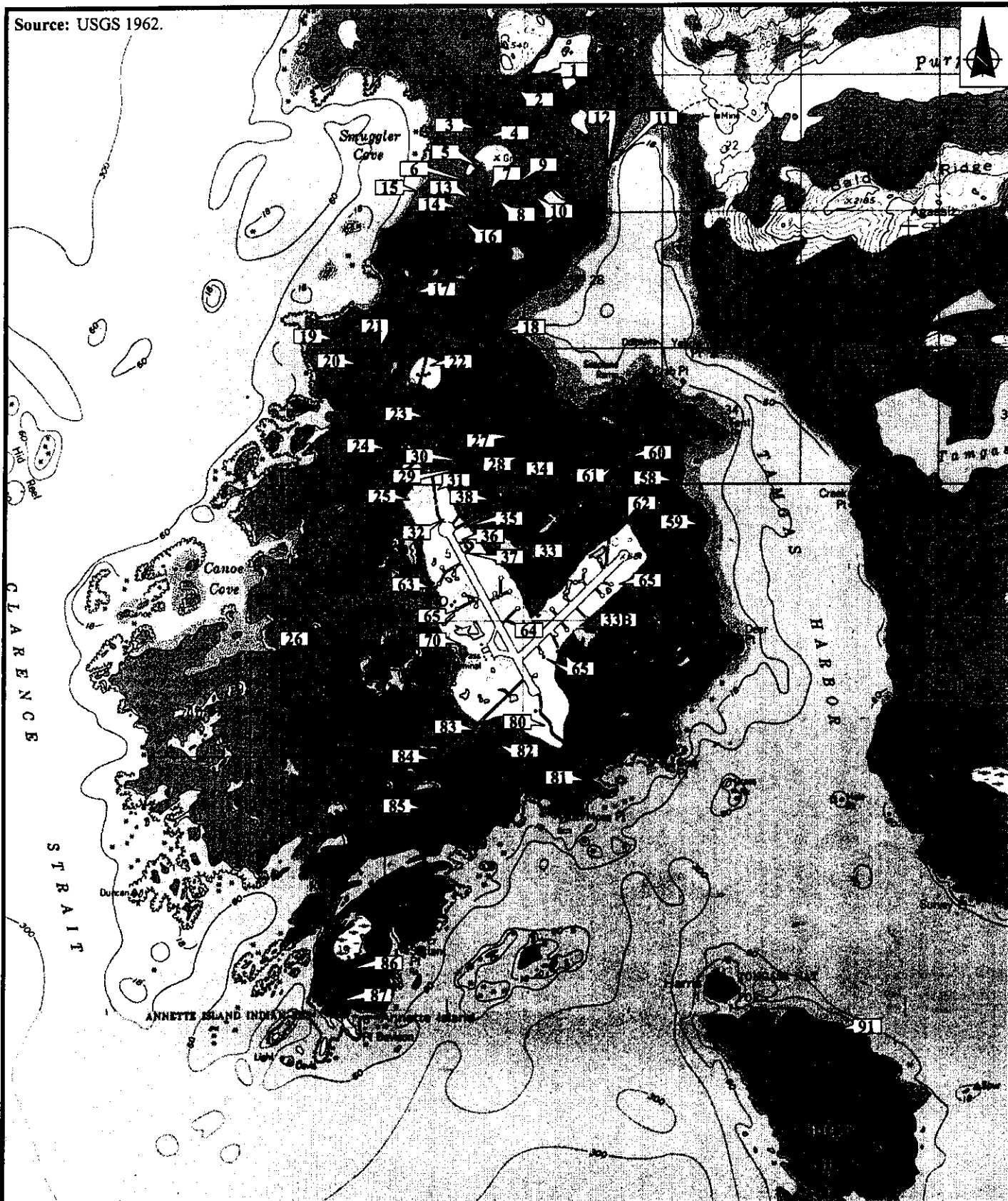
Figure 2-1

SITE VICINITY MAP

Date: 12-7-00	TDD No. 00-01-0013	PAN No. EA1301SIT0	Dwg. No. EA1301 2-1	Pubs. No. S523
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Drawn by: AES

Source: USGS 1962.



**METLAKATLA
INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
Annette Island, Alaska**

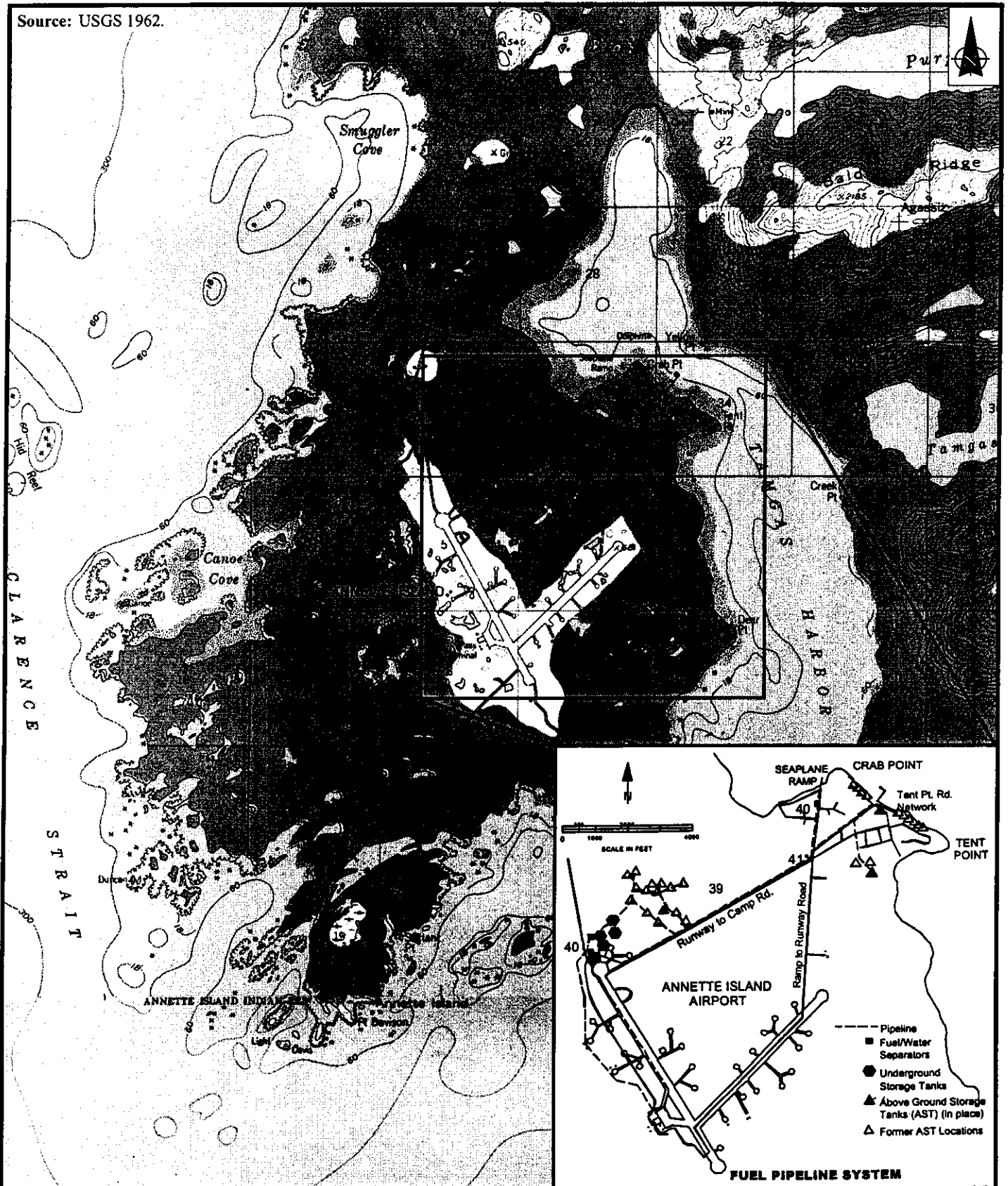
0 0.5 1
Approximate Scale in Miles

**Figure 2-2
SITE LOCATION MAP**

Date: 12-7-00	TDD No. 00-01-0013	PAN No. EA1301SIT0	Dwg. No. EA1301 2-2	Pubs. No. S523
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Drawn by: AES

Source: USGS 1962.



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NON-SAMPLING SITE INSPECTION
Annette Island, Alaska**

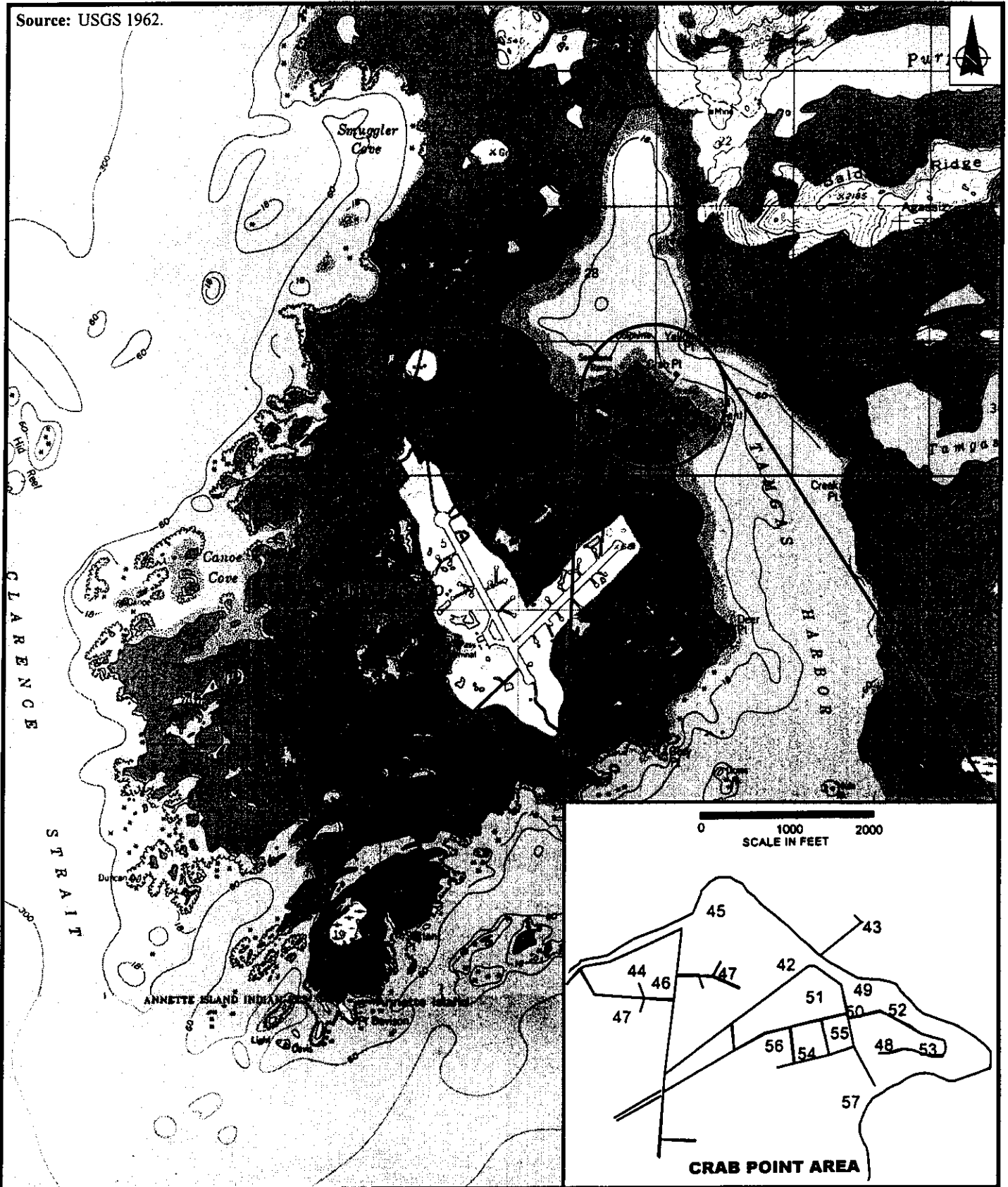
0 5 1
Approximate Scale in Miles

**Figure 2-3
FUEL PIPELINE SYSTEM
SITE LOCATION MAP**

Date: 12-7-00	TDD No. 00-01-0013	PAN No. EA1301SIT0	Dwg. No. EA1301 2-3	Pubs. No. S523
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Drawn by: AES

Source: USGS 1962.



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**METLAKATLA
INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
Annette Island, Alaska**

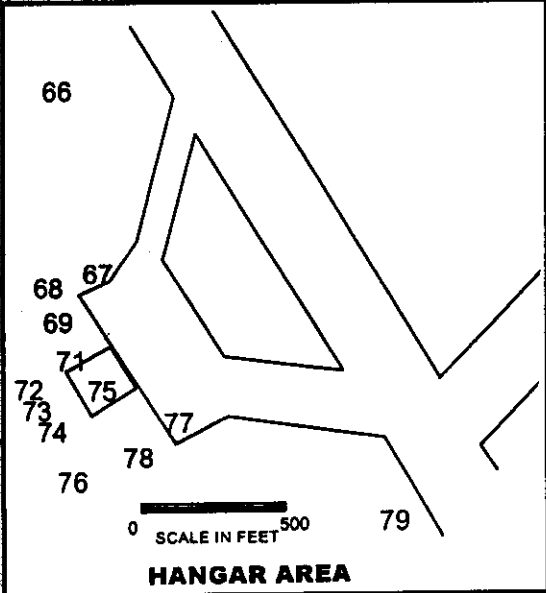
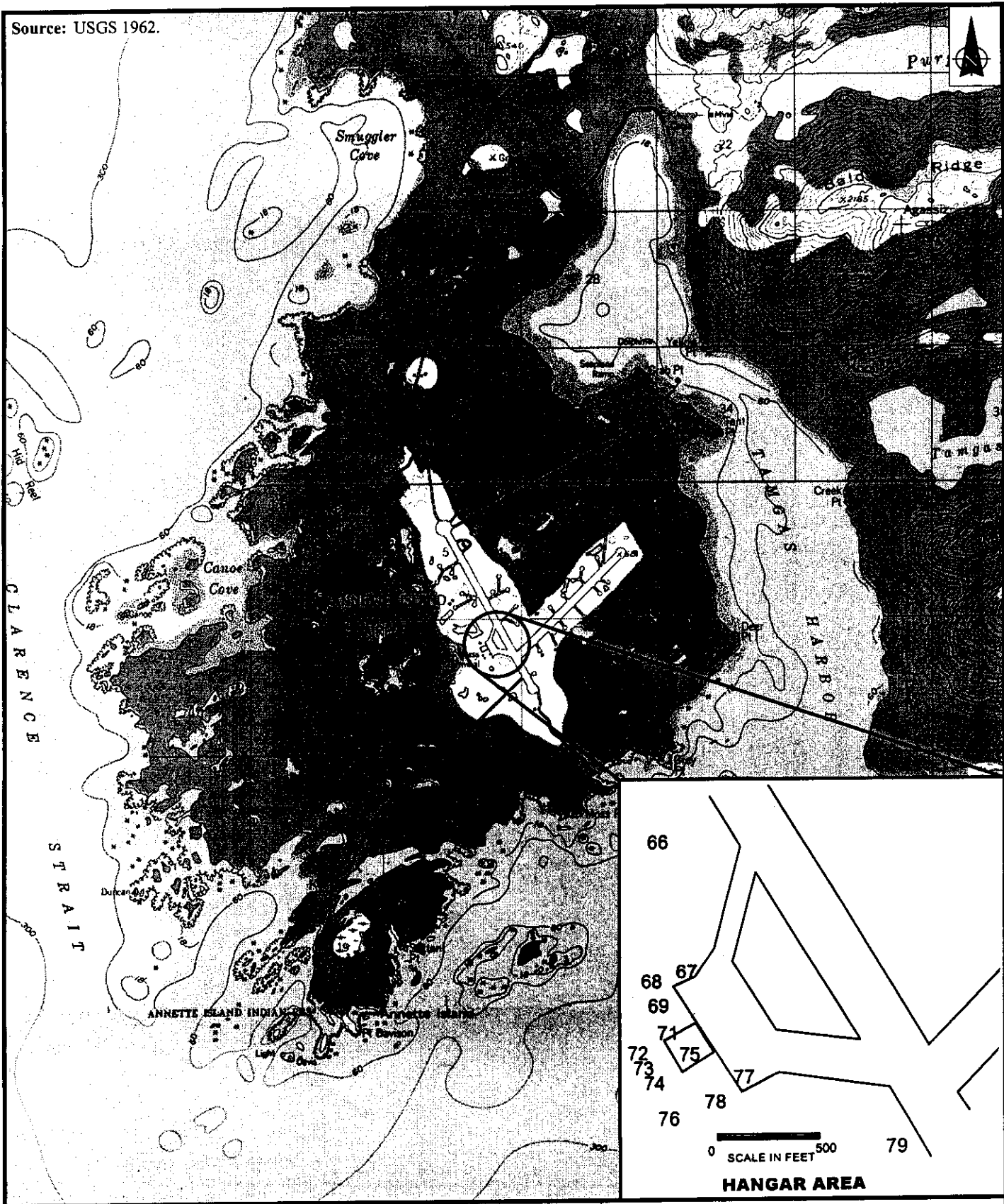
0 0.5 1
Approximate Scale in Miles

**Figure 2-4
CRAB POINT AREA
SITE LOCATION MAP**

Date: 12-7-00	TDD No. 00-01-0013	PAN No. EA1301SIT0	Dwg. No. EA1301 2-4	Pubs. No. S523
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Drawn by: AES

Source: USGS 1962.



HANGAR AREA

Figure 2-5

**HANGAR AREA
SITE LOCATION MAP**



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**METLAKATLA
INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
Annette Island, Alaska**

0 0.5 1
Approximate Scale in Miles

Date: 12-7-00	TDD No. 00-01-0013	PAN No. EA1301SIT0	Dwg. No. EA1301 2-5	Pubs. No. S523
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Drawn by: AES

3. SPECIFIC SITE HISTORY, CONTAMINANT MIGRATION, AND TARGETS

The following sections describe known/suspected sites throughout the Metlakatla Peninsula. Information provided below is summarized in the C3 Plan found in Appendix A. If known, the site descriptions include site operations, dates of operation, hazardous materials/contamination at the site, current site conditions, and the responsible agency or organization. The descriptions are not to be construed as a complete and current environmental inventory of the Metlakatla Peninsula because complete documentation is not available and some sites have ongoing restoration activities. The terminology and site numbering used in the following sections is consistent with the C3 Plan (MOU 1999). Analytical data are not available for each site. Because environmental assessments have been performed by numerous agencies with various objectives, available analytical data and the regulatory standards used for data comparison varies widely among sites. Reference to risk-based standards or cleanup levels in the text were derived directly from the applicable quoted reference; clarification on the actual standards or cleanup levels used should be obtained directly from the original report. Available analytical data have been condensed in Tables 3-1 through 3-3. These tables present the maximum concentration of a given contaminant at specific sites for the soil, groundwater, and sediment media. Site locations can be found in Figures 2-2 through 2-5. Also included in each site description is pertinent contaminant migration pathway and target information. Only the highest priority pathways and targets are included; for more complete pathway and target information, refer to Section 2.3. Based on the abundance of wetland habitat on the Metlakatla Peninsula, it can be assumed that wetlands are a significant target for each site discussed below. Wetlands are only specifically discussed when site-specific wetland information is available. Pathways and targets are not discussed for sites 88 through 90B because these sites are geographically located island-wide and site-specific pathway and target information is not applicable. Pathways and targets are not discussed for sites 91 through 93 (i.e. observation posts on Hotspur, Callaghan, and Warburton Islands, respectively) because these sites are not located within the Annette Island Reserve. Although the sites are identified in the C3 Plan, no restoration work has been addressed.

3.1 Water Treatment Plant (Site 1)

In 1941, the Department of Defense (DoD) constructed a water treatment plant adjacent to Yellow Hill Lake to supply water to the garrison areas (i.e., Sites 2 and 3) located southwest of Yellow Hill. The site consisted of a pump house, a water filtration plant, an AST and UST located near the pump house, a wash water tank, a filtered water tank, and a metal hut suspected to be a powerhouse used to operate the facility (Figure 3-1). Remains at the facility include the water intake pump house, the filtration plant, a metal hut, and a large concrete foundation that formerly housed the AST. Environmental concerns at the site include possible petroleum, oil, and lubricants (POL) contamination as a result of an on-site fuel tank next to a generator building. Mercury may be present as a result of switches used at the facility. Polychlorinated biphenyls (PCBs) are a possible contaminant of concern because of the presence of a generator building at the facility. (REI 1998a; MOU 1999)

During 1997, Ridolfi Engineers, Inc. (REI) performed a limited remedial investigation (LRI) at numerous sites throughout the peninsula. The presence of mercury at the water treatment plant was investigated during the LRI. A Simplex meter located near the filtration plant originally contained 9 pounds, 10 ounces of mercury. A mercury spill was noticeable in on-site soil and the mercury appeared to migrate to a concrete slab located approximately 6 inches below the existing soil surface. A soil sample collected at the suspected mercury spill area had a concentration of 5,200 milligrams per kilogram (mg/kg) of mercury. (REI 1998b)

USAED, Alaska, performed a removal action and remedial investigation (RI) of numerous sites on the Metlakatla Peninsula in 1999. A chart recorder, level switch, and any soil with visible free-mercury was removed from the site. Eight soil samples were collected in the area of this equipment and determined to contain elevated mercury concentrations. Additional soil was removed based on the first eight samples; an additional 19 soil samples were collected and analyzed for mercury. These samples indicate that elevated mercury concentrations remain in the soil; no further soil removal in the area of the chart recorder and level switch occurred during this investigation. (JEG 2000c)

As part of the removal action and remedial investigation, a total of two soil samples, two sediment samples, two surface water samples, and three groundwater samples were collected at the site to determine impacts from potential petroleum releases from the generator building and the former AST. The UST reported in previous investigations could not be located during the 1999 fieldwork. Diesel-range organics (DRO), residual-range organics (RRO), and polynuclear aromatic hydrocarbons (PAHs) associated with POL were detected above risk-based screening criteria in groundwater, soil, and sediment at the site. No POL contaminants were detected in Yellow Lake surface water. (JEG 2000c)

Mercury and POL are documented to exist in on-site media. PCBs remain a contaminant of concern at the site based on limited investigation of PCB presence and suspected power house operation at the site. Approximately \$250,000 of restoration activities are proposed through fiscal year 2001; proposed actions include surface soil sampling, possible soil treatment, Yellow Hill Lake sediment cleanup, removal of solid debris, and possible access road and bridge repair. The lead agency in restoration activities is the FUDS Program associated with the USAED, Alaska. (MOU 1999)

Yellow Lake is used as the potable water source for the airport area. Contaminants at the site may affect drinking water quality and pose possible health risks. Cutthroat trout and Dolly Varden, both sport fish species, are known to exist in Yellow Lake (USFWS 1983). The lake has a drainage area of 99 acres and has a surface area of 45.6 acres (USFWS 1983). Yellow Hill Creek, which originates at the lake, also supports cutthroat trout (USFWS 1983). The creek flows to Smuggler Cove; thus, contaminants at the site may affect this important subsistence harvest and recreation area. The site is accessible; the town of Metlakatla is located approximately 2 miles north of the site.

3.2 Engineer Garrison - Yellow Hill (Site 2)

The Engineer Garrison served as housing for base engineers and consisted of barracks, a mess hall, a latrine, quonset huts, an exterior rock fireplace, and a wood stove UST. The garrison consisted of approximately 30 buildings (Army 1941). Remains at the site consist of quonset hut framework, wood and metal debris, piping, the rock fireplace, and a wood stove tank (Figure 3-2). Possible POL contamination exists as a result of the fuel tank, based on soil staining and petroleum odor in the vicinity of the UST. A soil sample was collected near the UST; DRO was detected at 14 mg/kg and RRO was detected at 19 mg/kg. (REI 1998b)

USAED, Alaska, performed remedial actions at multiple sites throughout the peninsula, including the Yellow Hill Garrison. Existing liquid in the wood stove fuel tank was drained and treated in an on-site water treatment system. The tank sediment was not removed and tank cleaning did not occur. Tank penetrations were plugged and a metal tag was fixed to the tank indicating that tank liquids were removed. The wood stove tank was left in place. (HLA/WC 1999c)

The C3 Plan identifies possible solvent contamination, but no explanation for use of solvents at the site could be identified. A powerhouse was believed to exist at the site; therefore, PCBs potentially exist as a result of powerhouse operations. Approximately \$50,000 during fiscal year 2006 has been proposed to investigate POL and solvent soil contamination; however, the project's eligibility has not been determined. The DoD is the lead agency in restoration activities. The C3 Plan also identified

potential State Historic Preservation Office (SHPO) concerns but did not specify the possible issues. (REI 1998a; MOU 1999)

Surface water is not expected to be a significant migration pathway at the site. The site is accessible; the town of Metlakatla is located approximately 2 miles north of the site.

3.3 6-Inch Guns and Garrison (Site 3)

The 6-inch guns and associated crew housing was installed for coastal defense of the island. Remains at the facility include metal hut framework, wood debris, metal piping, and tanks. Environmental concerns at the site are limited to possible POL contamination resulting from fuel tanks. The 6-inch Naval Gun Area was included during an ordnance survey and no evidence was found of Elephant Shelters (i.e., 8-foot-high by 20-foot-long arched steel structures used to store bombs and other munitions) or wood structures in this area; the former structures were either removed or have deteriorated (USAED 1996). Approximately \$15,000 has been planned for restoration activities in fiscal year 2004; activities will include investigating/removing POL contamination and building debris removal. The FUDS Program associated with USAED, Alaska, is the lead agency in restoration activities. The C3 Plan indicated SHPO concerns exist at the site. (REI 1998a; MOU 1999)

Surface water is not expected to be a significant migration pathway at the site. The site is accessible; the town of Metlakatla is located approximately 2.5 miles north of the site.

3.4 Quarry (Site 4)

The rock quarry has been used for construction borrow materials throughout the island. No environmental concerns exist at the site, and restoration activities at the site have been determined to be unnecessary. (REI 1998a; MOU 1999)

Surface water is not expected to be a significant migration pathway at the site. The site is accessible; the town of Metlakatla is located approximately 2.5 miles north of the site.

3.5 Municipal Landfill (Site 5)

Usage of the Municipal Landfill by government agencies on the peninsula began in the 1940s and continued until the mid-1970s. The area of the landfill used by government agencies was believed to be covered with a thin layer of soil when usage ceased in the mid-1970's (Meyer 2000). The MIC began using the Municipal Landfill in the 1960s and continues to use the site today. Disposal records for the site are unavailable; thus, environmental concerns are unknown. The landfill is not permitted and is

located adjacent to a wetland. Approximately \$5,000,000 of restoration activities from fiscal year 2002 through 2008 is planned in order to properly close the landfill and develop a new landfill and waste management system. Although the responsible parties for site restoration have not been determined, the FAA is identified in the C3 Plan as the lead agency for restoration activities (REI 1998a; MOU 1999). At the present time, the MIC has received grant money from the BIA to perform interim cleanup activities at the landfill and to investigate waste management alternatives for the community. Also, the MIC is investigating possible grant money from the DOI, Rural Utility Service, for assistance in building a new waste management facility (Meyer 2000).

A wetland is located next to the site and represents an important environmental target at the site. Smuggler Creek drains the wetland at a volume of 1.4 cubic feet per second (cfs) and flows to Smuggler Cove (USFWS 1983). Smuggler Creek supports pink and coho salmon (USFWS 1983), and Smuggler Cove is an important subsistence gathering and recreation area for the community. The site is accessible and used regularly; the town of Metlakatla is located approximately 2.5 miles north of the site. As is the practice in many rural Alaska landfills, burning of landfill material is expected to occur in the Annette Island Municipal Landfill. Human exposure to contaminants at the landfill is a significant concern.

3.6 Shell Storage Bunker (Site 6)

Two shell storage bunkers housed ordnance, however, the type of ordnance at this location is unknown. The USAED, Alaska, performed an ordnance explosive survey at numerous sites throughout the peninsula in 1996, including two Elephant Shelter areas. It is possible that this ordnance survey applies to the shell storage bunker. Elephant Shelter Area No. 1 served as the primary ordnance storage facility for Annette Island. A USACE 1956 facility inventory of all DoD facilities transferred to the USCG indicated that most of the Elephant Shelters had been removed by 1956; the remaining Elephant Shelters have since been removed as none currently remain on site. Elephant Shelter Area No. 2 was relinquished to the DOI in 1949. None of the Elephant Shelters that existed at this site remain in their original location. (USAED 1996)

Remains at the site include wood foundations and debris. No environmental concerns exist at the site, and restoration activities at the site have been determined to be unnecessary. (REI 1998a; MOU 1999)

Surface water is not expected to be a significant migration pathway at the site. The site is accessible; the town of Metlakatla is located approximately 3 miles north of the site.

3.7 Bureau of Indian Affairs Road Maintenance Center (Site 7)

The BIA Road Maintenance Center is an active facility consisting of 10 metal quonset huts that house offices, road maintenance equipment, and two ASTs. Two USTs are also associated with site operations. Electrical transformers, one 300-gallon AST, sixteen 2000-gallon ASTs, and 55-gallon drums believed to be from other locations on the peninsula have been discarded at the site (Figure 3-3). A total of four soil samples were collected during the LRI for the MIC. One soil sample was collected downgradient from the side-by-side USTs; DRO was detected at 350 mg/kg and lead was detected at 37 mg/kg. One soil sample was collected outside of the quonset hut that houses the in-service AST; DRO was detected at 2,200 mg/kg, RRO was detected at 440 mg/kg, and lead was detected at 37 mg/kg. Two samples were collected near barrel, spill, or disposal areas at the site; one sample was collected near a drum pile on a plywood platform near the northeast corner of the property, and the other soil sample was collected from a stained soil area on the north side of the site buildings. Both samples contained numerous contaminants, including DRO (260 mg/kg and 12,000 mg/kg, respectively), RRO (1,700 mg/kg and 39,000 mg/kg, respectively), acetone (1,000 µg/kg), dichlorodiphenyltrichloroethane (DDT; 43 µg/kg), barium (14.7 mg/kg and 34.5 mg/kg, respectively), cadmium (0.8 mg/kg), chromium (34 mg/kg and 186 mg/kg, respectively), and lead (13 mg/kg and 90 mg/kg, respectively). (REI 1998b)

Environmental concerns at the site include lead-based paint on the metal huts, possible PCBs from electrical transformers, unknown materials stored in drums, and POL contamination from ASTs and USTs. Approximately \$550,000 of restoration activities have been planned for fiscal year 2004; activities will include transformer sampling and disposal, lead-based paint removal, UST excavation and disposal, and construction of AST secondary containment. The BIA is the lead agency for restoration activities. (REI 1998a, MOU 1999)

Surface water at the site flows east along roadside drainage ditches and discharges to a small creek on the east side of the Power Generation Plant (Side 9); the creek continues in a southeasterly direction and discharges to Tamgas Harbor, an important subsistence gathering and recreation area. The site is an active facility; eight workers regularly occupy the site (Mandan 2000). The site is accessible; the town of Metlakatla is located approximately 3 miles north of the site.

3.8 Bark Disposal Fill Area (Site 8)

The Bark Disposal Fill Area, covering approximately 7.5 acres, received wood waste from the Ketchikan Pulp Facility in Ward Cove, Alaska. DoD vehicles, 16 ASTs, and miscellaneous metal debris have been observed in the fill area. Environmental concerns at the site are unknown because

documentation of material disposed of on site is not available. This site is a proposed location for a MIC Municipal Golf Course. Approximately \$2,800,000 is needed to salvage the bark and compost material, dispose of the metal debris, stabilize the slope, and close and cap the area. The BIA is the lead agency for restoration activities planned for fiscal year 2002. (REI 1998a; MOU 1999)

A small creek flows from the Power Generation Plant (Site 9) and to the east of the bark disposal fill area; exact course of this creek is unknown, but it is believed to flow through a series of creeks and wetland ponds and lakes before entering North Tamgas Harbor, an important subsistence gathering and recreation area. The site is accessible and used regularly by residents anticipating the municipal golf course. The town of Metlakatla is located approximately 3 miles north of the site.

3.9 Power Generation Plant (Site 9)

The diesel-fueled power plant consisted of a 50- by 100-foot metal building, potentially PCB-containing electrical transformers, a 20,000-gallon AST, two Fairbanks-Morris generators, and the North Tamgas Tank Farm (Site 12; Figures 3-4 and 3-5; REI 1996; Benson 1997). The plant operated from 1966 to 1989, and the generators were removed after plant operations ceased (REI 1996). The power plant initially was the main source of power for Annette Island and was phased out in later years with construction of MP & L's hydroelectric plant at Tamgas Harbor, as well as its battery electric storage facility and diesel generator plant in Metlakatla. Typical hazardous materials utilized at power plants include PCBs, petroleum products, and solvents. The tank farm, located approximately 1 mile northeast of the power plant, supplied diesel fuel to the power plant through an aboveground pipe between the two facilities (Figure 3-5).

Beginning in approximately 1990, the area immediately north of the building was utilized by a local fish processor for equipment storage. Fish processing equipment, not expected to contain hazardous materials, continues to be stored in this area. (Benson 1997)

During winter 1996, the site was utilized as a fabrication shop by a home construction contractor. The generator pits located in the building reportedly were filled with soil at this time to provide a safe work area. Construction debris, consisting of wood scraps and fasteners, was left by the home construction contractor. Also, miscellaneous debris allegedly was burned by the contractor in an area immediately east of the site's entrance. (Benson 1997)

The power plant site is owned by the MIC, and there are no current land leases on the property. The site is being used by the MIC as a temporary storage area for 55-gallon drums of assorted materials and volumes that were removed from other locations on Annette Island. (Benson 1997)

Southeast Management Services (SMS) collected sediment samples near the BIA Power Generation Plant as part of a 1996-1997 Metlakatla Golf Course project permit application process. The proposed location for the Metlakatla Golf Course is south of and across the road from the former BIA Power Generation Plant. Total petroleum hydrocarbons (TPHs) were detected at 140,000 parts per million (ppm) in a sediment sample collected from the unnamed creek that borders the site's east side. This prompted SMS to inspect the former BIA Power Generation Plant to determine whether the plant is a potential source of contamination. During the SMS inspection, oil contamination was observed near the 20,000-gallon AST in the northeast portion of the site. The AST appeared to be partially full of product, and the outlet shutoff valve had been in the open position until SMS closed it on January 31, 1997. Oil was observed seeping up from the ground where the shutoff valve piping entered the ground on the south side of the tank. Another vertical pipe came out of the ground on the north side of the tank and was connected to the top of the tank by a hose. Much of the ground surface around the vertical pipe and the north end of the tank showed signs of oil residue, and oil was observed seeping slowly from the ground and entering the unnamed creek in an area about 10 feet north of the tank. A full 1,000-gallon tank with no connected piping was found on its side about 40 feet south of the 20,000-gallon AST. No leakage was observed, and the contents of this tank are unknown. An additional 8,000-gallon AST was located north of the power plant building and appeared to be empty. Sediments in the creek immediately adjacent to the AST were visually noted to contain substantial amounts of oil. Approximately 106 drums in four main groups were located south, east, and west of the AST. Most of the drums appeared to be full of used oil, and some were badly bulged, punctured, leaking, or open to the environment. In addition, four upright drums near the entrance to the site appeared both full and unopened. The contents of these drums are unknown because the labels had faded and were illegible. A fifth drum with a puncture halfway up the side also was located in this area. This drum appeared to be half-full and had been laid on its side so that the puncture was near the top. A pallet of approximately 16 lead-plated batteries was located along the northeast side of the power plant building; however, during the Brownfields site assessment the batteries were located on the southeast site of the building (E & E 1999). Several plastic battery casings were broken, and lead battery plates were observed on the ground. The surface water drainage exiting the site appeared to be clean, but bottom sediments readily emitted substantial quantities of visible oil when disturbed. Oil-saturated sediments were observed throughout the entire length of the creek adjacent to the site to the north and east, a total linear distance of about 4,600 feet. (Hanna 1997)

During 1997, REI collected one surface soil sample and one sediment sample as part of the LRI of the Metlakatla Peninsula. The surface soil sample was collected at the north end of the 20,000-gallon

AST, while the sediment sample was collected from bank and bed sediments in the unnamed creek located northeast of the 20,000-gallon AST. The AST soil sample contained DRO (7,600 mg/kg), RRO (3,800 mg/kg), and lead (27 mg/kg). The composite sediment sample contained the following contaminants: gasoline-range organics (GRO; 50 mg/kg), DRO (140,000 mg/kg), RRO (130,000 mg/kg), lead (298 mg/kg), 2-butanone (1,200 µg/kg), 1,2,4-trimethylbenzene (470 µg/kg), n-propylbenzene (300 µg/kg), 4-isopropyltoluene (430 µg/kg), 2-methylnaphthalene (12,000 µg/kg), fluorene (14,000 µg/kg), phenanthrene (26,000 µg/kg), pyrene (6,000 µg/kg), bis (2-ethylhexyl)phthalate (4,800 µg/kg), DDT (14 µg/kg), 2,4,5-TP (Silvex; 34 µg/kg), barium (53.6 mg/kg), cadmium (4.9 mg/kg), chromium (216 mg/kg), and lead (298 mg/kg). (REI 1998b)

The EPA conducted a Brownfields site assessment (BSA) at the BIA Power Generation Plant in 1998. All soil, sediment, and water samples collected during the EPA BSA were analyzed for GRO, benzene, toluene, ethylbenzene, and xylenes (BTEX), DRO, RRO, Target Analyte List (TAL) metals, pesticide/PCBs, volatile organic compounds (VOCs), and semivolatile organic compounds (SVOCs). Thirteen surface soil samples were collected from seven areas of concern: five from the pits and drains associated with the BIA Power Generation Plant building, one from the fenced electrical transformer area, two from suspected stained soil area north of the building, two from the drum staging area, one from the northeast AST area, one from the stained soil near the unnamed creek, and one from the lead battery storage area. Stained soil was noted in the drum staging area (approximately 200 square feet) and around the northeast AST (approximately 200 square feet). Soils around the northeast AST emitted a strong petroleum odor and appeared to be saturated with POL.

Two subsurface samples were collected from two areas of concern: the pits and drains associated with the building and the former electrical transformer location. Subsurface soil samples were not collected at other areas of concern because of shallow bedrock (1.5 to 2 feet bgs) at the site.

Two sediment samples were collected from the unnamed creek north and east of the power plant building. During sampling activities, the creek was estimated to be flowing at less than 1 cfs. When creek sediments were disturbed during sample collection, a sheen appeared on the water surface immediately after disturbance. A petroleum odor was noted in both creek sediment samples. Creek sediments consisted of fine silts and gravels.

Two co-located groundwater samples (filtered and unfiltered) were obtained from the drum staging area. The groundwater excavation was completed to 2.5 feet bgs.

Three electrical transformer oil samples were collected from used electrical transformers stored outside on the south side of the BIA Power Generation Plant and tested for the presence of PCBs. The transformers were determined to contain non-PCB transformer oil.

DRO and metal concentrations detected in surface soil and sediment were above detected risk-based standards throughout all areas of the BIA Power Generation Plant. The presence of these contaminants in subsurface soils was not well-documented because of the shallow bedrock over most of the site. Metals and DRO appear to have migrated to groundwater at the site. The wood preservative pentachlorophenol also is present in the groundwater collected at the drum staging area at a concentration exceeding the EPA, Region 9, tap water preliminary remedial goals (PRGs); the Federal Drinking Water Regulations and Health Advisories; and the State of Alaska Groundwater Cleanup Levels. This compound likely is present because of drum leakage or storage of utility poles in the area. In the power plant building, the solvent methylene chloride was detected in the east generator pit soil sample, the central building floor drain, and the subsurface soil sample at the outside building drain location at concentrations above the State of Alaska Soil Cleanup Levels. PCBs were detected at concentrations above the State of Alaska Soil Cleanup Levels in soil from the power plant building inside the east floor drain. PCBs, acetone, TAL metals, and POL compounds also were detected at concentrations exceeding risk-based standards in sediments collected from the unnamed creek located north and east of the site.

Approximately \$2,160,000 of restoration activities are planned for fiscal year 2003; proposed work includes the removal of transformers, drums, ASTs, and contaminated soil. The lead agency for restoration activities at the site is the BIA.

The unnamed creek where site contaminants have been detected flows along the north and east side of the site; the exact course of this creek is unknown, but it is believed to flow through a series of creeks and wetland ponds and lakes before entering North Tamgas Harbor, an important subsistence gathering and recreation area. Contaminants have been detected in the creek at the site boundary; however, downgradient extent of site contaminants is unknown. The site is accessible and apparently used regularly by residents. The town of Metlakatla is located approximately 3 miles north of the site. Human exposure to unknown contaminants related to drum storage at the site is a significant concern.

3.10 Automobile Landfill (Site 10)

Originally a military dump, the Automobile Landfill became a repository for 55-gallon drums, airplane parts, automobiles, and large metal construction debris (Figure 3-6). In 1997, the MIC contracted to have automobiles and some metal debris removed for salvage. Over one thousand

55-gallon drums and significant amounts of metal debris were present in the landfill at the time of the LRI; however, as specified below, the drums and debris were removed in 1999. A soil sample was collected downgradient from the toe of the landfill; the sample contained DRO (97 mg/kg), RRO (170 mg/kg), 2-butanone (2,000 µg/kg), barium, (653 mg/kg), cadmium (3 mg/kg), chromium (124 mg/kg), lead (120 mg/kg), and mercury (0.4 mg/kg; REI 1998b).

USAED, Alaska, performed a removal action/RI in 1999 at numerous sites throughout the Metlakatla Peninsula, including the Automobile Landfill (referred to as Drum Dump #5). Material removed from the Automobile Landfill includes over one thousand 55-gallon drums (1,040 "clean drums" and 99 FUDS waste drums), 410 cubic yards of scrap metal, eight compressed cylinders, one smoke grenade, one fire extinguisher containing carbon tetrachloride, four lead acid batteries, six electrical capacitors, two electrical transformers, and several paint and metal polish cans. Certain items at the site were considered WW II artifacts and were eligible for inclusion in the National Register of Historic Places. Removal activities were conducted in a manner so as to preserve objects considered historically significant. At the Automobile Landfill, WW II airplane parts were removed and relinquished to the MIC and a 55-gallon drum with patent year 1902 was left in place. (JEG 2000c)

Following the removal activity, 20 soil samples, two co-located surface water/sediment samples, and five groundwater samples were collected and analyzed to determine environmental impacts from possible contaminant releases at the site. Although only two soil samples were analyzed for PCBs, both samples contained PCBs at concentrations exceeding risk-based screening criteria. Hydrocarbons were detected at concentrations above risk-based screening criteria in 19 of 20 soil samples; DRO and RRO chromatograms indicate the presence of diesel fuel, petroleum oil, and some biogenic material. Three PAHs, benzo(a)pyrene, benzo(b)fluoranthene, and benzo(k)fluoranthene, were detected at concentrations above screening criteria in one soil sample. Numerous metals were detected above screening criteria and background concentrations at several sample locations. In the five groundwater samples, RRO was detected in two samples above screening criteria, however, chromatograms indicate the detections were because of biogenic material. Three metals, chromium, arsenic, and lead, were detected at concentrations above screening criteria in all groundwater samples. DRO and RRO were detected in both sediment samples at concentrations above the screening criteria; chromatograms indicate the presence of petroleum oil and biogenic material. Chromium, lead, and silver were detected at concentrations above the screening criteria in site sediments. In surface water, only barium and lead were detected at concentrations above the screening criteria in one sample. (JEG 2000c)

POL-contaminated soil has been noted in the north corner of the landfill. Contents of the 55-gallon drums removed from the site were asphalt believed to be left over from runway construction efforts in WW II. PCBs were detected in on-site soils; distribution of PCBs may currently be underestimated because of limited sampling for this contaminant. On-site media were not sampled for pesticides or herbicides during the USAED, Alaska, RI in 1999; therefore, presence of these contaminants at the site is unknown. Restoration activities, totaling \$750,000 and encompassing fiscal years 1999-2001, include removal, recycling, and disposal of landfill material. These removal activities were completed by the USAED, Alaska, in 1999. Contaminated soil remains at the site. The FAA is the lead agency for restoration efforts. (MOU 1999; JEG 2000c)

The wetland and lake complex (known as Quarry Lake) adjacent to the site appears to be an isolated system; no specific outlet creek for the lake is known. Site contaminants have been detected in the wetland bordering the west side of the lake. Quarry Lake supports a population of cutthroat trout (USFWS 1983). The site is accessible; the town of Metlakatla is located approximately 3 miles north of the site.

3.11 Supply Dock (Site 11)

The Supply Dock was the first dock constructed at the airbase for supplying materials to the engineers, garrison, and quarry. The dock rapidly deteriorated because it was constructed of untreated wood. No environmental concerns have been raised at the dock area. The MIC has interest in reconstruction of the dock for use during salvage and restoration activities on the peninsula, but the MOU has not included this in the C3 Plan. The C3 Plan indicates that SHPO concerns exist at the site. No lead agency has been named and no environmental restoration activities at the site are planned. (REI 1998a; MOU 1999)

The Supply Dock was located in North Tamgas Harbor. The harbor supports a wide variety of wildlife and has been identified as an important subsistence gathering and recreation area for the community. The site is accessible; the town of Metlakatla is located approximately 2.5 miles north of the site.

3.12 North Tamgas Harbor Tank Farm (Site 12)

The tank farm is a bermed 50-by-100-foot area containing five 15,000-gallon ASTs (Figure 3-7). The tanks originally supplied diesel fuel to the BIA Power Generation Plant (Site 9) via a pipeline paralleling Quarry/Supply Dock Road. The tanks remain in place for spill containment as part of the

regional emergency response plan. During 1997, REI collected one surface soil sample as part of the LRI of the Metlakatla Peninsula. The surface soil sample was collected west of the southwest AST at the North Tamgas Tank Farm near a concrete electrical pad. The sample was analyzed for GRO, BTEX, DRO, RRO, and lead. The soil sample contained GRO (19 mg/kg), DRO (19,000 mg/kg), RRO (210 mg/kg), lead (12 mg/kg), and BTEX. (REI 1998b)

The EPA BSA at the BIA Power Generation Plant in 1998 included an investigation of the North Tamgas Tank Farm. Soil samples collected at the tank farm were analyzed for GRO/BTEX, DRO, and RRO only. Two surface soil samples were collected from the tank farm and stained soil was noted (approximately 300 square feet). One subsurface sample was collected from the tank farm, under a pipe located downgradient from the berm area. GRO, DRO and RRO were detected in surface soil at the North Tamgas Tank Farm. GRO, DRO, RRO, and o-xylene were detected in subsurface soil at the North Tamgas Tank Farm. (E & E 1999)

Restoration activities planned for fiscal year 2001 are estimated at \$200,000 and include cleaning and refurbishing the tanks. The BIA is the lead agency in restoration activities. (MOU 1999)

The tank farm is located adjacent to North Tamgas Harbor. A steep hillside and rocky coastline separate the site from the harbor. The harbor supports a wide variety of wildlife and has been identified as an important subsistence gathering and recreation area for the community. The site is accessible; the town of Metlakatla is located approximately 2.5 miles north of the site.

3.13 Abandoned Landfill (Site 13)

The abandoned landfill was used by the DoD and the FAA. The landfill contains an assortment of material, including batteries, paints, fuels, and metal debris. Detailed disposal records for the landfill are not available. Soil sampling in the area has not occurred so the type of environmental contamination at the site, if any, is unknown. Restoration activities, planned for fiscal years 2000-2001 and estimated at \$870,000, include removal and proper disposal of landfill materials. The BIA is the lead agency in restoration activities. (REI 1998a; MOU 1999)

Surface water is not expected to be a significant migration pathway at the site. The site is accessible; the town of Metlakatla is located approximately 3 miles north of the site.

3.14 Chlorination Building (Site 14)

The Chlorination Building is a 200 square foot wood building built by the FAA in the late 1960s as part of a water pipeline system. The facility is in significant disrepair. The building contains

lead-based paint and the piping is insulated with asbestos-containing material (ACM). Restoration activities estimated at \$15,000 are planned for fiscal years 2003-2004 and include removal of the building; however, removal of ACM on the water pipes is not addressed in the restoration plan. The MIC is interested in replacing the chlorine system. The FAA has been identified as the lead agency for restoration activities. (REI 1998a; MOU 1999)

Surface water is not expected to be a significant migration pathway at the site. The site is accessible; the town of Metlakatla is located approximately 3 miles north of the site.

3.15 White Alice Station (Site 15)

The WAS, approximately 88.07 acres near Smuggler Cove, was acquired for the United States Air Force (USAF) by permit and lease from the MIC in 1960. The facility was used by the USAF as part of the White Alice Communications System for communication with Air Force bases throughout Alaska and to provide a link with the remote Distant Early Warning Line radar stations. Improvements constructed by the USAF include an industrial building; tropospheric antennas; and 16 miscellaneous facilities including water supply and storage tanks, fuel storage tanks, utility lines, and roads (Figure 3-8). The permit areas were used as a rock quarry and borrow pit. (Duscha n.d.; Stevens 1990)

Specific operations and the number of personnel stationed at this facility are unknown. Features known to be at other White Alice sites, which also may have existed at the WAS, include generators and electrical transformers for power generation and distribution, maintenance shops, housing and cooking facilities, and septic drainfields. Hazardous materials potentially stored and used at the station as part of regular station operations include fuels, lubricants, paint and thinners, and PCB-containing electrical transformer oil. Hazardous materials potentially found at similar White Alice facilities in Alaska include solvents, herbicides, pesticides, and ACM.

The improvements and equipment were sold to Alascom, Inc., (Alascom) in 1980 pursuant to the Alaska Communications Disposal Act. Most of the improvements subsequently were sold to the MIC in 1984 (Duscha n.d.; Stevens 1990). Alascom currently operates a communications repeater station at the WAS, consisting of a tower antenna and two small buildings within a small fenced parcel of land leased from the MIC.

MP & L, an entity of the MIC, currently utilizes the former WAS building for administrative offices; a maintenance shop; and indoor storage of electrical equipment, machinery, and substances such as paints, thinners, herbicides, and lubricating oil. An adjacent outdoor electrical transformer and 55-gallon drum storage area at the northwest corner of the site is also used. A portion of the building was

used in the past as housing for the MP & L general manager, but the housing currently is not occupied. Some original USAF site features have been removed (i.e., the tropospheric antennas and generators). The electrical transformer and drum storage area (approximately 100 by 100 feet) is located immediately northwest of the Alascom station and is being used as a staging area for surplus electrical transformers and 55-gallon drums of used oil designated for disposal, as well as for new electrical transformers. The surplus electrical transformers may originate from former military facilities on Annette Island or from the current MP & L utility line system. The quantity of drums in the storage area fluctuates depending on MP & L activities. A lead battery storage area exists on the west side of the WAS building adjacent to the back door. This storage area consists of two wood pallets with disintegrating vehicle-size batteries. Also on the west side of the WAS are an equipment building and concrete pad. This area is used for storage of electrical cable rolls and metal debris. A heating fuel AST is located on the south side of the WAS building. The AST is connected to a UST of unknown size in the northeast portion of the site. The UST is in turn connected to a small storage tank inside the WAS building that is connected directly to the WAS building boiler that presently heats the WAS building. Connections from the inside storage tank to the outside tanks and associated pipeline have been blocked to prevent backflow from inside the building to the outside tanks. The outside UST, AST, and associated pipeline may contain an unknown amount of heating fuel but are not currently used by MP & L (Achenbach 1998). A second UST is located in the northeast portion of the site on the north side of the water treatment building. The purpose of this UST is uncertain, but MP & L has not used it (Achenbach 1998). Presumably, this tank supplied fuel to equipment inside the water treatment building. An AST is also located in the northeast portion of the site. This AST was used by MP & L to store vehicle gasoline. However, when Metlakatla residents began obtaining gas from the AST, MP & L never refilled the AST. A fenced transformer location exists in the northeast portion of the site. A modern box-type transformer is located within the fence and actively provides electricity to the WAS building.

At the request of the Department of the Army, North Pacific Division, USACE, the USAED, Alaska, began a study of the proposed demolition and restoration at the former WAS in 1985 as part of the Defense Environmental Restoration Program (DERP). In cooperation with the MIC, the USAED, Alaska, planned to crush barrels and dispose of them in a landfill; demolish slabs and foundations and cover them with soil; and demolish and remove certain structures, scattered metal, and wood debris for disposal in a sanitary landfill. An Inventory Project Report outlining removal methods, environmental impacts from restoration activities, and project timelines was completed by the USAED, Alaska. (Stevens 1985)

USAED, Alaska, returned to the site in 1988; discovered it to be in active use by Alascom; and reported no evidence of hazardous or toxic waste, ordnance, or unsafe debris from DoD use of the site. At that time, the USAED, Alaska, issued a Findings and Determination of Eligibility report that concludes that an environmental restoration project at this site was not within the scope of the DERP. (Stevens 1990)

MP & L uses the WAS for outdoor storage of approximately 100 electrical transformers collected from former military sites around Annette Island and from the MP & L utility system pending proper disposal (Achenbach 1997a). MP & L has collected oil samples from some of these electrical transformers, and chemical analysis shows that eight of 36 electrical transformers contain PCBs (Achenbach 1997a). Approximately seventy 55-gallon drums are stored adjacent to the electrical transformer storage area. An MP & L representative informed the START that four of the approximately 70 drums contained PCB compounds from drained electrical transformers. The remainder of the drums contained petroleum products and are MP & L property. (Achenbach 1997b)

REI completed a LRI of the Metlakatla Peninsula in 1998 with the purpose of documenting historical site usage and information regarding environmental conditions for a number of sites on the island, including the WAS. REI documented the following information regarding the WAS. The facility was built by the USAF in the late 1950s and consisted of a 50- by 350-foot, two-story building; a microwave tower; and two large metal tropospheric relay antennas. The building currently is utilized as offices for MP & L. Two fuel ASTs, one water AST, three fuel UST fill pipes, numerous 55-gallon drums, numerous electrical transformers, batteries, remnants of the tropospheric antennas, and a large communication tower were observed around the building. Soil staining was observed in the proximity of the UST fill pipes and the 55-gallon drum and electrical transformer storage areas. Late in 1997, REI collected three surface soil samples as part of the LRI of the Metlakatla Peninsula. The samples were collected downgradient from the USTs near the unnamed creek at the northeast portion of the site, at the heating fuel AST south of the building, and at the electrical transformer storage area at the northwest corner of the building. The UST soil sample contained DRO (68 mg/kg), RRO (35 mg/kg), and lead (551 mg/kg). The AST soil sample contained GRO (86 mg/kg), DRO (16,000 mg/kg), lead (62 mg/kg), and BTEX. The soil sample collected from the transformer storage area contained a number of contaminants, including GRO (60 mg/kg), DRO (20,000 mg/kg), RRO (1,100mg/kg), 2-butanone (780 µg/kg), 1,3,5-trimethylbenzene (290 µg/kg), 4-isopropyltoluene (280 µg/kg), pyrene (990 µg/kg), aldrin (37 µg/kg), lead (10 mg/kg), barium (40.6 mg/kg), cadmium (0.8 mg/kg), and chromium (122 mg/kg). (REI 1998b)

The EPA conducted a BSA of the WAS in 1998 (E & E 1999). All soil, sediment, and water samples collected during the EPA BSA were analyzed for GRO/BTEX, DRO, RRO, TAL metals, pesticide/PCBs, VOCs, and SVOCs. Twenty-two surface soil samples were collected from nine areas of concern: 10 from the electrical transformer and drum staging area, one from the septic system area, one from the north side dump area, two from the fenced electrical transformer area, two from the northeast-side UST location, one from the water pump building UST location, one from outside the station chemical storage room, three from the heating fuel AST and pipeline location, and one from the lead battery storage area. Stained soil was noted at the electrical transformer and drum staging area (approximately 200 square feet), the heating fuel AST (approximately 100 square feet), and the northeast-side UST location (approximately 100 square feet). Soil directly under the heating fuel AST was moist, emitted a petroleum odor, and appeared to be saturated with POL. (E & E 1999)

Thirteen subsurface soil samples were collected from eight areas of concern: two from the electrical transformer and drum staging area, one from the septic system area, one from the north side dump area, two from the fenced electrical transformer area, two from the northeast-side UST area, one from the water pump building UST area, one from outside the chemical storage room, and three from the heating fuel AST. (E & E 1999)

The two sediment samples were collected at the WAS as part of the BSA: one from the septic system and one from an unnamed creek northeast of the northeast-side UST area. The stream was flowing at less than 1 cfs, and sediments consisted of fine silts and gravels. No visual signs of contamination were present at either location. (E & E 1999)

A water sample was collected directly from the septic system outfall at the WAS. A slight but constant trickle of water was discharging from the outfall pipe during BSA sampling activities. Two groundwater samples were collected east of the fenced electrical transformer location and the northeast-side UST. The groundwater excavation was completed to 8 feet bgs; a petroleum sheen was visible on the water in the pit, and a strong petroleum odor was emanating from the excavation. (E & E 1999)

Some 110 electrical transformer samples were collected from the WAS transformer and drum staging area. In addition, five 55-gallon drums of waste oil (two labeled as containing PCBs) stored with the electrical transformers at the WAS were sampled. Transformer oil and drum samples were analyzed for PCBs only; 12 transformers were determined to contain PCB transformer oil. (E & E 1999)

MP & L plans to continue use of the WAS for offices, an equipment shop, and an equipment warehouse. DRO and TAL metals surface soil concentrations above risk-based standards at the WAS are

widespread and have migrated to subsurface soils in most areas at the WAS and into groundwater and stream sediments near the fenced electrical transformer area and northeast-side UST. At the electrical transformer and drum staging area, pentachlorophenol, PCBs, and lead were detected in surface soils at concentrations above the EPA, Region 9, Residential and Industrial Soil PRGs and the State of Alaska Soil Cleanup Levels. Pentachlorophenol also has migrated to subsurface soils at this location in concentrations above the EPA, Region 9, Residential Soil PRG and the State of Alaska Soil Cleanup Levels. The presence of pentachlorophenol and PCBs is likely related to the historical storage of utility poles and electrical transformers in this area, respectively. At the fenced electrical transformer area, PCBs, in addition to DRO and TAL metals, were detected at concentrations above the comparison standards in the surface and subsurface soils. Many fuel-related VOCs and SVOCs, along with DRO and TAL metals, in concentrations above the EPA, Region 9, Tap Water PRGs; the Federal Maximum Contaminant Levels; and the State of Alaska Groundwater Cleanup Levels have migrated to groundwater in this area. In the lead battery storage area, mercury and PCBs were detected in surface soils at concentrations above the State of Alaska Soil Cleanup Levels and the EPA, Region 9, Residential Soil PRGs, respectively. This area is adjacent to the WAS building back door and the electrical transformer storage area. Therefore, spills or dumping of contaminants may have occurred in this area. Additional investigation at the site is necessary to determine the vertical and lateral extent of contamination and to identify the most feasible means of contaminant remediation. (E & E 1999)

Sediments from the septic system vault contained numerous contaminants at concentrations above risk-based screening benchmarks, including mercury, cadmium, PCBs, pesticides, acetone, and trichloroethene. Based on analytical results from surface water and soils collected at the septic system outfall, many of the sediment contaminants have migrated beyond the septic system. The presence of these contaminants is likely caused by past disposal of electrical equipment fluids and cleaning solvents into the septic system. Contaminants discharging from the septic system pose a potential environmental threat to the Smuggler Cove ecosystem. (E & E 1999)

PCB analytical data for all out-of-service electrical transformers stored at the WAS during fieldwork should be used to properly dispose of all electrical transformers stored at the WAS. Any electrical transformers taken out of service since the EPA BSA should be stored separately, sampled, and disposed of at an approved facility. (E & E 1999)

REI contracted asbestos abatement work at various sites on Annette Island in 1999, including the WAS. The following ACM was removed from the site: floor tiles and mastic, pipe fitting insulation, hot water tank and boiler insulation, window caulking, walk-in cooler insulation, and light fixture reflective

strips. Some ACM was left in place; signs indicating that in-place ACM was safe unless disturbed were posted at the locations of remaining ACM. (REI 1999)

Restoration activities planned for the WAS include investigation and remediation of POL contamination from facility USTs and removal of miscellaneous debris. Current restoration activities are estimated at \$2,000,000 and scheduled for fiscal years 2002-2004, however, project eligibility issues have not been resolved. The DoD is currently the lead agency for restoration activities at the WAS. (MOU 1999)

A small creek flows along the northeast side of the site and discharges to Smuggler Cove. The building septic system discharges on the steep hillside northwest of the site and flows into Smuggler Cove. Site contaminants have been detected in creek and septic system sediments; therefore, contaminant migration to Smuggler Cove, an important subsistence gathering and recreation area, is a significant concern. The WAS is an active facility utilized by MPL for offices, equipment storage, warehouse operation, and minor repairs; five employees utilize the site regularly (Mandan 2000). The WAS is also used by many community residents for access to Smuggler Cove; a trail from the WAS parking area to Smuggler Cove has resulted from constant use. Therefore, human exposure, either to workers or regular recreational users, to site contaminants is a significant concern.

3.16 Antenna Towers (Site 16)

Three large orange and white antenna towers built by the FAA are located at this site. The towers are no longer standing and contain lead-based paint. Restoration for this site, estimated at \$50,000 and scheduled for fiscal years 2000-2001, includes removal of the towers. The C3 Plan indicates that SHPO issues exist at the site. The FAA is the lead agency for restoration activities. (REI 1999; MOU 1999)

Surface water is not expected to be a significant migration pathway at the site. The site is accessible; the town of Metlakatla is located approximately 3 miles north of the site.

3.17 Beach Access Road (Site 17)

The 2,200-foot road was built between 1961 and 1973 to connect Metlakatla Road with the south end of Smuggler Cove. No environmental concerns associated with the road are known or expected. The MIC is interested in the MOU Work Group including Beach Access Road improvements in restoration activities on the peninsula. Currently, no restoration activity or lead agency has been identified at the site. (REI 1999; MOU 1999)

Surface water is not expected to be a significant migration pathway at the site. The site is accessible; the town of Metlakatla is located approximately 4 miles north of the site.

3.18 Main Hospital Area (Site 18)

The Army constructed a 75-bed hospital for personnel at the airfield and abandoned the site after WW II. The hospital was a series of quonset huts accompanied by a boiler house, a powerhouse, and an emergency powerhouse. Two wood stave USTs and one wood stave AST for fuel storage existed at the site. Currently, the site contains quonset huts, quonset hut framework, wood debris, concrete fire walls, concrete foundations, and metal debris such as pressure tanks and boilers (Figure 3-9). In addition to the hospital site-related debris, a material disposal area is located at the hospital site. The disposal area contains DoD vehicles, wood stave barrels, 55-gallon metal drums, electrical conduit and wire, wire spools, and miscellaneous metal debris (Figure 3-9). A total of five samples were collected during the LRI of the Metlakatla Peninsula; one surface soil sample near the estimated 8,500-gallon wood stave AST, two surface soil samples from the material disposal area, and two composite intertidal sediment samples from the shoreline adjacent to the site. The AST soil sample contained DRO (130 mg/kg), RRO (500 mg/kg), and lead (5 mg/kg). The first sample from the disposal area contained GRO (2,600 mg/kg), DRO (2,800 mg/kg), RRO (180 mg/kg), 2-hexanone (2,100 µg/kg), 1,1,2,2-tetrachloroethane (1,500 µg/kg), 1,2,4-trimethylbenzene (8,300 µg/kg), 4-isopropyltoluene (4,000 µg/kg), naphthalene (3,100 µg/kg), 2-methylnaphthalene (1,600 µg/kg), 2,4,5-TP (Silvex; 78 µg/kg), barium (1,130 mg/kg), chromium (243 mg/kg), and lead (1,310 mg/kg). The second sample from the disposal area contained o-xylene (940 µg/kg), 1,3,5-trimethylbenzene (120,000 µg/kg), tert-butylbenzene (2,300 µg/kg), 4-isopropyltoluene (11,000 µg/kg), lead (1,360 mg/kg), barium (346 mg/kg), and chromium (315 mg/kg). Barium (19.1 mg/kg) and chromium (7.0 mg/kg) were the only contaminants detected in the north intertidal sediment sample. Barium (24.1 mg/kg) and lead (3 mg/kg) were detected in the south intertidal sediment sample. Local residents indicated that an X-ray clinic operated at the hospital facility. The suspected former X-ray building was scanned with a radiation detector; no evidence of radiological contamination was found. (REI 1998b)

USAED, Alaska, performed remedial actions at multiple sites throughout the peninsula, including the Main Hospital Area. Existing liquid in two wood stave fuel tanks were drained and treated in an on-site water treatment system. The tank sediment was not removed and tank cleaning did not occur. Tank penetrations were plugged and a metal tag was fixed to the tank indicating that tank liquids were removed. The wood stave tanks were left in place. (HLA/WC 1999c)

The Main Hospital Area was included in a Removal Action/RI performed by the USAED, Alaska, in 1999. The hospital was split up into three source areas for sampling and ease of data presentation. Area 1 was located at the northern edge of the hospital area and consisted of a wood stove UST that formerly contained heating oil (the tank contents were removed in 1998). Six soil samples were collected and one groundwater well was installed in Area 1. DRO and RRO were detected at levels exceeding risk-based screening criteria at four soil samples and the groundwater sample. Chromatograms indicate the presence of weathered diesel fuel in the soil samples and biogenic material in the groundwater sample. (JEG 2000c)

Area 2 was located in the central portion of the hospital area and consisted of a septic tank and a former AST location; the AST has been removed and all that remains is the foundation. Two soil samples, one water sample from the septic tank, and one groundwater sample were collected from Area 2. DRO and RRO concentrations exceeded risk-based screening criteria in both soil samples near the former AST location; however, chromatograms indicate that material is primarily biogenic. Chromium and lead were detected above risk-based screening criteria in the groundwater sample; however, chromium and lead concentrations were similar to the site's upgradient background well. Lead was detected in the septic tank water sample at a concentration exceeding surface water risk-based screening criteria. (JEG 2000c)

Area 3 was located along the southern edge of the hospital area and consisted of a septic tank, exposed wood stove UST, wood stove drums, and metal drums. The UST formerly contained heating oil that was removed in 1998. The metal drums (127) were removed during this removal action. Twenty-one soil samples, one septic tank water sample, three co-located surface water/sediment samples along Colby Creek, and three groundwater samples were collected from Area 3. DRO and RRO were detected at concentrations exceeding risk-based screening criteria throughout Area 3; chromatograms indicate that the material was primarily weathered diesel fuel, but kerosene may be present at the wood stove drums and biogenic material constituted most of the organic material in the samples from the metal drum area north of the septic tank. Chlorinated herbicides were detected in the wood stove drum area, but at concentrations below risk-based screening criteria. In the metal drum area, chlorinated pesticides were detected in soil samples but were present at concentrations below risk-based screening criteria. DRO, RRO, benzo(a)pyrene, benzo(b)fluoranthene, and benzo(k)fluoranthene were detected in groundwater at concentrations above risk-based screening criteria. Chromatograms for DRO and RRO indicate the presence of weathered diesel fuel. No contaminants were detected above risk-based screening criteria in Colby Creek surface water or sediment samples. (JEG 2000c)

Restoration activities at the site include investigation, removal, and remediation of potential POL-, solvent-, and insecticide-contaminated soil; removal of buildings; and removal of miscellaneous debris. The insecticide contamination addressed in the C3 Plan is likely referring to the pesticides and herbicides detected at the site. Removal of 55-gallon drums and investigation of soil, groundwater, surface water, and sediment contamination was completed in 1999 as part of the USAED, Alaska, Removal Action/RI as described above. The removal of fuel tanks is not explicitly included in restoration activities. The presence of electrical equipment remaining at the site as a result of powerhouse operations has not been documented. Restoration activities, estimated at \$3,000,000, are planned during fiscal years 1999-2004. The FUDS Program associated with the USAED, Alaska, is the lead agency for restoration at the Main Hospital Area. (MOU 1999)

The main hospital area is adjacent to Tamgas Harbor; site contaminants may enter the harbor via overland flow. Sewer lines discharge directly to the harbor, thus, contaminants in the septic system have a direct migration route to Tamgas Harbor. Tamgas Harbor has been identified as an important subsistence gathering and recreation area for the MIC. Colby Creek flows along the south side of the site at a volume of approximately 12 cfs; the creek supports pink and chum salmon. Pink salmon escapement numbers for a five-year period in the mid 1970s ranged from 189 to 2,655 fish. Hospital Lake and Hospital Creek are located approximately 0.25 mile north of the site; Hospital Lake supports cutthroat trout and Dolly Varden while Hospital Creek supports pink, chum, and coho salmon. Pink salmon escapement on Hospital Creek for a five-year period in the mid-1970s ranged from 1,275 to 4,584 fish (USFWS 1983).

3.19 Non-Directional Beacon (Site 19)

The Non-Directional Beacon (NDB)/H-Marker Facility is located on 10 acres at the end of Weather Bureau Road. The former NDB building reportedly burned down completely in the early 1980s. The facility consists of a fiberglass building that houses active electronic equipment and a fenced antenna tower with a live transformer. Four other antenna towers are on the ground at the site (Figure 3-10). Lead concentration in surface soil was identified as a concern during an FAA Environmental Compliance Investigation. The presence of lead does not appear to be related to a possible leaded fuel source; a likely source is lead-based paint on the antenna towers and original NDB building. Electrical equipment at the facility has not been sampled; hence, PCBs are a potential contaminant of concern. ACM was identified in building materials at the NDB facility. (E & E 1992)

The FAA conducted an expanded site investigation (ESI) at the NDB/H-Marker Facility to further delineate the extent of lead contamination, identify other contaminants in source areas (i.e., soil around the former NDB building foundation), and investigate the migration of contaminants to environmental targets near the facility. Source and target samples were analyzed for TAL metals, dioxins/furans, pesticides/PCBs, VOCs, and base/neutral and acid extractable organic compounds (BNA). Analytical data indicates that approximately 150 cubic yards of lead-contaminated soil are present at the site. In addition to lead, numerous other metals are present in source area soil samples at a concentration greater than three times the background concentration, including arsenic, barium, chromium, cobalt, copper, magnesium, nickel, selenium, and zinc. Also, multiple dioxin/furan isomers were detected in source soil samples; however, total dioxins/furans never exceeded one part per billion toxicity equivalency factor in any sample. Various BNA commonly associated with petroleum products were also detected in source soil samples at estimated quantities. Stressed vegetation was observed along the east and south sides of the NDB building foundation and the antenna chain-link fence. Target sediment samples were collected from a wetland drainage south of the NDB building foundation and along this drainage to Smuggler Cove. Metals, dioxins/furans, and BNA were detected in wetland sediment samples up to Smuggler Cove, indicating possible contaminant migration from the site to Smuggler Cove. (E & E 1995a)

The FAA currently leases the facility from the MIC and operates communication equipment in the fiberglass building and the remaining operable antenna tower. Proposed restoration activities, estimated at \$100,000 and planned for fiscal years 1999-2000, includes the investigation of lead contamination in soil and the removal of the down antenna towers. The FAA is the lead agency for restoration activities at the NDB facility. (MOU 1999)

Wetlands are located east and south of the site; these wetlands drain to the southwest and discharge into the southern extent of Smuggler Cove. Site contaminants have been detected in sediments in the drainage channel where it discharges to Smuggler Cove. Smuggler Cove is an important subsistence gathering and recreation area for the community. The NDB building is accessible to the public, but the antenna is fenced. The town of Metlakatla is approximately 4 miles north of the site; however, MIC members utilize the former Weather Bureau Housing (Site 20) for residences. Therefore, the closest residence is approximately 300 feet from the NDB site. Two lakes in the area have been surveyed for fish populations; no sport fish species were identified in the lakes (USFWS 1983).

3.20 Weather Bureau Housing (Site 20)

Built in the late 1940s, the Weather Bureau Housing is an active facility consisting of seven wooden buildings, 6 residence buildings and one maintenance building (Figure 3-10). An AST is located adjacent to each building, with soil potentially contaminated with POL under each AST (Figure 3-11). However, no obvious stains or odors have been observed around the tanks. Several metal quonset huts are located southeast of the housing area. An abandoned AST is located approximately 100 feet east of the housing complex in a pond on the north side of the road (Figure 3-11). A surface soil sample was collected underneath the AST at Building 3 in the central portion of the housing complex. Contaminants detected in the sample include GRO (68 mg/kg), DRO (9,700 mg/kg), lead (557 mg/kg), and xylene (180 µg/kg). (REI 1998b)

An additional housing area referred to as the "Living Quarters East" existed, but the location of this housing complex is unknown. The site appears to have consisted of 13 buildings: nine residences, a boiler house, a sewage disposal plant, a garage shed, and a building of unknown function (Figure 3-11). The buildings were connected to a common septic system that discharged to the northeast side of the site. (NWB 1966)

Possible ACM and lead-based paint is associated with the buildings. The NWB is currently addressing environmental concerns at the site. In addition, \$500,000 of restoration activities are scheduled for fiscal year 2003, including investigation of POL contamination associated with each AST. The NWB is the lead agency for restoration activities. (REI 1998a; MOU 1999)

Wetlands are located northeast and southwest of the site; these wetlands drain to the southwest and discharge into the southern extent of Smuggler Cove. Smuggler Cove is an important subsistence gathering and recreation area for the community. MIC members utilize the former Weather Bureau Housing (Site 20) for residences; hence, the closest residence is on site. Two lakes in the area have been surveyed for fish populations; no sport fish species were identified in the lakes (USFWS 1983).

3.21 Remote Communications Air-Ground Facility (Site 21)

The Remote Communications Air-Ground (RCAG) Facility, consisting of 5.7 acres, includes a concrete block building, a storage shed, transformers and rectifiers, two antenna towers, and a 500-gallon gasoline UST (Figure 3-10). The facility has been leased and operated by the FAA since 1948. PCBs were detected in electrical equipment at the facility; oil in one transformer contained greater than 50 ppm PCBs and therefore is considered PCB-containing material (as defined in the Code of Federal Regulations [CFR], 40 CFR 761). Small amounts of miscellaneous hazardous materials such as solvents,

paints, and batteries were observed at the facility. Thirteen 55-gallon drums were observed in the vicinity of the RCAG facility; all drums appeared rusted, dented, and empty. ACM was identified in building materials at the RCAG facility. (E & E 1992)

In 1992, the FAA removed hazardous materials from the RCAG facility. Seventeen items at the RCAG facility were identified for disposal; 13 items were found and removed from the site. The items removed from the site include six electrical rectifiers, 1-gallon cans of elastomer, empty 55-gallon drums, 5-gallon containers of sulfuric acid, exide marine batteries, 1-gallon cans of paint, a 1-gallon container of antifreeze, and one container of radiator compound. Items scheduled for removal that were not removed during this project include 1-gallon cans of adhesive, a 1-quart can of paint thinner, one gallon of battery acid that could not be found, and one container of soldering paste that was retained by FAA for future use. (E & E 1993)

The FAA conducted an ESI at the RCAG Facility to identify contaminants in source areas (i.e., soil around former drum storage area) and investigate the migration of contaminants to environmental targets near the facility. Source and target samples were analyzed for TAL metals, pesticides/PCBs, VOCs, and BNA. Numerous TAL metals are present in source area soil samples at a concentration greater than three times the background concentration, including barium, copper, lead, magnesium, nickel, and zinc. Toluene, commonly associated with POL contamination, was detected in one source soil sample. Target sediment samples were collected from a wetland drainage that flowed northwest from the drum storage area and then west into Smuggler Cove and also from a pond located southwest of the RCAG building. No contaminants were detected at concentrations greater than three times background in the wetland drainage pathway. The following compounds were detected at concentrations greater than three times background in the pond target sample: barium, calcium, copper, magnesium, nickel, zinc, toluene, and xylene. (E & E 1995a)

During the ESI, the FAA performed some interim cleanup activities at the RCAG Facility. As part of interim cleanup, the UST was pumped and cleaned in preparation for decommissioning. At the time of pumping, the tank contained no petroleum products; five gallons of petroleum-contaminated water was pumped into a 55-gallon drum and left with a local resident for reuse of the drum. (E & E 1995a)

The FAA decommissioned and removed a 500-gallon gasoline UST adjacent to the RCAG building in 1998. Approximately 8 cubic yards of potentially contaminated soil was removed during the excavation; no additional soil was removed based on field screening results. Groundwater was encountered during UST excavation; a sheen was noted on the water surface. Confirmation samples

indicated low levels of contaminants in soil in the excavation wall, thus, no further action related to the UST removal was recommended. (HLA/WC 1999a)

The property is currently under lease agreement between the MIC (lessor) and the USCG (lessee). The USCG has established a GPS ground station using the existing FAA buildings and three new towers. Restoration activities at the RCAG Facility, consisting of \$150,000 scheduled for fiscal years 1999-2000, include building and contaminated soil removal. The building foundation will remain in place. The C3 Plan indicates that SHPO issues exist at the site. The FAA is the lead agency for restoration activities. (REI 1998a; MOU 1999)

Wetlands are located south of the site; these wetlands drain to the southwest and discharge into the southern extent of Smuggler Cove. Smuggler Cove is an important subsistence gathering and recreation area for the community. The RCAG site is accessible to the public; the town of Metlakatla is approximately 4 miles north of the site. MIC members utilize the former Weather Bureau Housing (Site 20) for residences; the closest residence is approximately 250 feet from the NDB site. A stream located northeast of the site flows northwest into Smuggler Cove; the creek does not support fish populations. Additionally, two lakes in the area have been surveyed for fish populations; no sport fish species were identified in the lakes (USFWS 1983).

3.22 AACS Station (Site 22)

The Army Airway Communication System (AACS) Station provided weather and navigational support to WW II air crews. The facility was utilized by the FAA after WW II. Remains at the facility include a tower, building debris, building foundation, and electrical debris. ACM and lead-based paint are associated with building materials at the site. PCBs may be present at the site based on the past use of electrical equipment. Approximately \$100,000 of restoration activities planned for fiscal years 2000-2001 include removal of the tower, building, asbestos, and lead. The building foundation will remain in place. The C3 Plan indicates that SHPO issues exist at the site. The FAA is the lead agency for restoration activities. (REI 1999; MOU 1999)

Surface water is not expected to be a significant migration pathway at the site. The site is accessible; the town of Metlakatla is located approximately 4 miles north of the site.

3.23 ACS Station (Site 23)

The Alaska Communications System (ACS) Station was originally an Army-operated communications system. Most ACS Stations throughout Alaska were transferred to private

communications companies after Army usage. This ACS Station has been operated in conjunction with the FAA. Remains at the site include towers, possible electrical generator mounts, power poles, and metal hut framework. Fuel and PCBs may have been spilled on site. Approximately \$80,000 of restoration activities planned for fiscal years 1999-2001 include removal of the collapsed building and additional soil sampling to identify sources on site. The building foundation will remain in place. The C3 Plan indicates that SHPO issues exist at the site. The FAA is the lead agency for restoration activities. (REI 1999; MOU 1999)

Surface water is not expected to be a significant migration pathway at the site. The site is accessible; the town of Metlakatla is located approximately 4.5 miles north of the site.

3.24 Middle Marker Facility (Site 24)

The Middle Marker Facility was built by the FAA as a navigational aid. The facility consists of a small building that contains two small inactive transformers with an estimated quantity of 2 gallons of dielectric oil. A pile of twenty-four 55-gallon drums were observed along the north side of the road and southeast of the facility (Figure 3-12). No visible markings were noted on the drums; some were open-top style and others were bung-top style and appeared full. Electrical equipment at the facility has not been sampled; hence, PCBs are a potential contaminant of concern. (E & E 1992)

The LRI of the Metlakatla Peninsula reported that more than one hundred 55-gallon drums were located south of the facility, adjacent to a stream crossing. An asphalt-like material appears to have leaked from the drums and into the stream bed. The drum area was swept with a magnetometer to find the extent of buried drums or anomalies, if present. The magnetometer survey indicated that buried drums are located in the fill area next to the road culvert and north along the road. A transformer was found northwest of the facility (REI 1998b). The transformer was marked "Westinghouse Transformer, 15 Kva, 8 gallon oil Style #1066726, Serial #2970124, Sampled 3/4/97, KP/RR (907)271-4495," which is different than the transformer at the facility described in the FAA Environmental Compliance Investigation (E & E 1992; REI 1998b). Sample results for this transformer have not been obtained (REI 1998b).

Lead-based paint and asbestos are associated with building materials at the site. Reportedly, a transformer at the site was tested for PCBs and none were detected; however, data for this sample could not be found. Restoration activities, estimated at \$35,000 and scheduled for fiscal years 1999-2001, include removal of the collapsed building, the transformer casing, and drums of tar located near the

adjacent stream. The C3 Plan indicates that SHPO issues exist at the site. The FAA is the lead agency for restoration activities. (REI 1998a; MOU 1999)

Gilnet Creek flows through a pile of abandoned 55-gallon drums south of the site. Gilnet Creek flows to the southwest at a volume of approximately 5 cfs and discharges into Canoe Cove, an important subsistence gathering and recreation area for local residents. The lower portion of Gilnet Creek supports pink, chum, and coho salmon; the upper extent of salmon migration into the creek is unknown (USFWS 1983). The site is accessible; the town of Metlakatla is located approximately 5 miles north of the site.

3.25 Approach Lighting System (Site 25)

The Approach Lighting System (ALS) Facility was constructed by the FAA to aid in navigation. The facility is comprised of 15 towers, each containing five small inactive transformers (i.e., less than 1 gallon each). One tower also contains a small capacitor. Electrical equipment at the facility has not been sampled; hence, PCBs are a potential contaminant of concern. (E & E 1992)

USAED, Alaska, performed a removal action at the site beginning in 1996. Approximately 25 feet of asbestos-covered wire was removed from the site in October, 1996. Also, beginning in October, 1996, 80 small capacitors and transformers associated with the ALS Facility were removed and disposed of at an approved facility. (OHM 1998)

The C3 Plan indicates that the facility is comprised of 29 towers built and used by the FAA, not 15 as previously reported. Approximately \$500,000 of restoration activity planned for fiscal years 2000-2001 is limited to the removal of all towers. No information regarding transformer oil PCB sampling could be found; also, investigation of possible PCB contamination is not currently specified in restoration activities. The C3 Plan indicates that SHPO issues exist at the site. The FAA is the lead agency for restoration activities. (REI 1999; MOU 1999)

Surface water is not expected to be a significant migration pathway at the site. The site is accessible; the town of Metlakatla is located approximately 5 miles north of the site.

3.26 Canoe Cove Garrison (Site 26)

The Canoe Cove Garrison served as housing for military personnel. The facility consisted of quonset huts, wood-frame buildings, a suspected power house, and a 200-gallon UST (Figure 3-13). The garrison consisted of approximately 45 buildings (Army 1942). Remains at the site include metal hut framework, wood foundations, and metal and wood debris. The UST was of wood stave construction and was located inside a rectangular wooden frame. The UST is approximately 50 percent full and appeared

to be leaking and draining into a small creek approximately 15 feet northwest of the UST. There was an obvious petroleum odor and soil staining in the UST area. A soil sample was collected downgradient from the west edge of the UST. Contaminants detected in the sample include DRO (85,000 mg/kg), RRO (3,600 mg/kg), lead (10 mg/kg), and xylene (620 µg/kg). (REI 1998a; 1998b)

USAED, Alaska, performed remedial actions at multiple sites throughout the peninsula, including the Canoe Cove Garrison. Existing liquid in the wood stave fuel tank was drained and treated in an on-site water treatment system. The tank sediment was not removed and tank cleaning did not occur. Tank penetrations were plugged and a metal tag was fixed to the tank indicating that tank liquids were removed. The wood stave tank was left in place. (HLA/WC 1999c)

POL soil contamination is associated with the UST; PCBs may be present on site as a result of power house operations. Metal and wood debris remains at the site. Restoration activities estimating \$250,000 and scheduled for fiscal years 2002-2004 include removal of fuel tanks and building materials. The C3 Plan indicates that SHPO issues exist at the site. The FUDS Program associated with USAED, Alaska, is the lead agency for restoration activities. (REI 1998a; MOU 1999)

Canoe Cove Creek II flows through the site with a volume of approximately 1 cfs. The creek flows southwest and discharges to Canoe Cove, an important subsistence gathering and recreation area for local residents. Canoe Cove Creek II does not support any sport fish populations (USFWS 1983). Canoe Cove Creek I is located north of the site and flows west at a volume of 3 cfs and discharges to Canoe Cove. Although no fish were observed in the creek during a survey, pink and chum salmon may utilize the creek (USFWS 1983). The site is accessible; the town of Metlakatla is located approximately 6 miles north of the site.

3.27 VORTAC Facility (Site 27)

The Very High Frequency Omnidirectional Range Tactical Aircraft Control and Navigation (VORTAC) Facility consisted of the 30-by-30-foot concrete block VORTAC building, an antenna complex consisting of four towers, electrical transformers, the directional finder (DF) antenna tower, a 500-gallon AST, a 1,000-gallon UST, a 500-gallon UST (location unknown), and 55-gallon drums (Figure 3-14). Lead concentrations in surface soil near the UST fill port and the west side of the VORTAC building were identified as a concern during an FAA Environmental Compliance Investigation (ECI). PCBs were detected in electrical equipment at the facility; however, no transformer oil sample contained greater than 50 ppm PCBs (i.e., PCB-containing material as defined in 40 CFR 761). Small

amounts of miscellaneous hazardous materials such as solvents, paints, and batteries were observed at the facility. ACM was identified in building materials at the VORTAC facility. (E & E 1992)

The FAA performed a removal action at the VORTAC facility in 1992. A total of 11 items were identified for removal and disposal; however, only seven items were removed and disposed of, including two small bridging transformers, one Termaline PCB coaxial resistor, two large PCB coaxial resistors, and two high-voltage rectifiers. Six miscellaneous items, including lube oil, batteries, paint, acetone, turpentine, and floor cleaner, were identified for disposal but could not be found during fieldwork. A final item, four metal acid marine batteries, were retained by the FAA for future use. (E & E 1993)

The FAA performed an ESI at the VORTAC facility to delineate lead and petroleum contamination on site and to investigate contaminant concentrations along surface water migration routes and in adjacent wetland targets. Soil and sediment samples were analyzed for BTEX, VOCs, BNA, pesticides, and PCBs. Lead was detected above regulatory criteria in on-site surface soils and sediment samples in two distinct surface water pathways exiting the site. Approximately 300 cubic yards of soil are potentially affected by lead contamination. Toluene was also detected in site soils and surface water migration pathway sediments. (E & E 1995a)

In 1995, the FAA removed hazardous materials from numerous sites on the Metlakatla Peninsula. A number of items, including three small sealed transformers, CAPSUR cleaning solution, and investigative-derived waste from concrete cleaning operations at the hangar building, were removed from the VORTAC hazardous materials storage locker. However, none of these items were generated from activities at the VORTAC facility. (E & E 1995b)

The FAA decommissioned and removed a 1,000-gallon diesel UST from the VORTAC Facility in 1998. Approximately 19 cubic yards of potentially contaminated soil were removed during the UST excavation; based on field screening and confirmation soil samples, no additional soil was removed from the excavation. Groundwater was not encountered during UST excavation. No further action related to the UST removal was recommended. (HLA/WC 1999b)

The site remains operable and in current use by the FAA. Because of the site's active status, restoration activities on site are limited to the removal of lead-based paint chips from on-site soils. Approximately \$750,000 of restoration work is planned for fiscal years 2002-2004. The FAA is the lead agency for restoration activities. (MOU 1999)

The VORTAC facility is surrounded by wetlands; surface water flow at the site is toward the northeast and will eventually reach Tamgas Harbor via overland flow. The harbor is approximately 1 mile from the site. The VORTAC is an active facility that is operated by automated equipment;

therefore, no workers are regularly located on site. Periodically, workers visit the site to inspect and maintain the equipment. The facility is secured with a locked fence.

3.28 Water Tanks (Site 28)

The Water Tanks were built and abandoned in place at a location just south of the VORTAC Facility (Site 27). Remains at the site consist of wooden platforms, wood tank debris, concrete valve boxes, and sections of piping. No known environmental concerns exist at the site. Approximately \$15,000 of restoration activities are scheduled for fiscal year 2008, including removal of platforms, wire rings, and other miscellaneous debris. The FAA is the lead agency for restoration activities. (MOU 1999)

Surface water is not expected to be a significant migration pathway at the site. The site is accessible; the town of Metlakatla is located approximately 5 miles north of the site.

3.29 Directional Finder Antenna (Site 29)

The DF Antenna is an active facility associated with the VORTAC Facility (Site 27). Concrete AST foundations and a submerged 55-gallon drum are located near the DF Antenna (Figure 3-14). Because this facility operates in conjunction with the VORTAC Facility (Site 27), site history, previous investigations, current site status, and major environmental restoration activities are addressed with the VORTAC Facility (Site 27). The C3 Plan has allotted \$5,000 for fiscal year 2008 for stripping the antenna of possible lead-based paint and repainting. The FAA is the lead agency for restoration activities. (MOU 1999)

The DF Antenna facility is surrounded by wetlands; surface water flow at the site is toward the northeast and will eventually reach Tamgas Harbor via overland flow. The harbor is approximately 1 mile from the site. The DF Antenna is an active facility that is operated by automated equipment; therefore, no workers are regularly located on site. Periodically, workers visit the site to inspect and maintain the equipment. The facility is surrounded by a locked fence; therefore, the site is inaccessible to the public.

3.30 Satellite Station (Site 30)

The FAA recently (mid-1990s) constructed a new facility approximately 1,000 feet southwest of the VORTAC Facility (Site 27). The Satellite Station consists of a 10-by-20-foot metal building and two circular satellite receivers within a fenced enclosure. An AST, approximately 4 by 6 feet, also exists at

the facility. No environmental concerns are known or suspected at the Satellite Station; hence, no restoration activities are planned at the site. The FAA currently has jurisdiction of the Satellite Station. (REI 1998a, 1998b; MOU 1999)

Surface water is not expected to be a significant migration pathway at the site. The site is accessible; the town of Metlakatla is located approximately 5 miles north of the site.

3.31 Underground Fuse Magazines (Site 31)

The Underground Fuse Magazines consist of two underground concrete bunkers covered with steel plate doors. Dynamite and torpedo fuses were reportedly stored in the bunkers; other munitions stored in the bunkers are unknown. (REI 1998a; MOU 1999)

USAED, Alaska (1996), performed an ordnance/explosives survey at multiple sites throughout the peninsula, including a site referred to as the Quarry Camp Area. This site is believed to be synonymous with the Underground Fuse Magazines location. The site formerly consisted of bomb storage facilities (8-foot-high by 20-foot-long arched steel structures called Elephant Shelters) and wood structures used to store munitions. The Elephant Shelters have been removed from their original location and the wood structures have deteriorated to wood debris. Two belowground concrete base storage magazines (10 by 4 by 6 feet) existed at the site; one of the concrete magazines is covered by fill and is inaccessible, and the other concrete magazine, recently used by quarry contractors to store dynamite, has been cleared of explosives by the BIA and the MIC. (USAED 1996)

The MIC plans to include this site in an island-wide explosives investigation, while the C3 Plan does not address this. Restoration plans for the site consist of removing fall hazards. The restoration will cost approximately \$50,000 and is scheduled for fiscal year 2004. The C3 Plan indicates that SHPO issues exist at the site. The FUDS Program associated with the USAED, Alaska, is the lead agency for restoration activities. (REI 1998a; MOU 1999)

Surface water is not expected to be a significant migration pathway at the site. The site is accessible; the town of Metlakatla is located approximately 5 miles north of the site.

3.32 SALSr (Site 32)

The Short Approach Lighting System Runway End Identification Lights (SALSr) site is located at the north end of the runway. The site consists of a steel building mounted on skids; seven transformers, 3 sets of capacitors, and one circuit breaker were located in the building (Figure 3-15). The FAA performed an ESI in 1994. Oil from the seven transformers and the circuit breaker was sampled for

PCBs; PCB concentrations in all samples were less than 50 mg/kg except for one transformer (i.e., PCB-containing material as defined in 40 CFR 761). PCBs were detected at a concentration of 70 mg/kg in oil from a large 100-gallon transformer located in the northwest corner of the building. The capacitors were not sampled; however, these capacitors were assumed to contain PCB oil. (E & E 1995a)

In 1995, the FAA performed a removal action at numerous sites throughout the peninsula, including the SALSR. The transformer and circuit breaker oil was pumped into 55-gallon drums for disposal. The electrical capacitors were sealed for transportation and disposal. All transformers, circuit breakers, capacitors, and associated oil were removed from the SALSR and disposed of. (E & E 1995b)

Reportedly, the remains at the SALSR consist of a 5- by 10- by 5-foot metal box on a concrete pad (REI 1998a). Restoration activities at the SALSR, totaling approximately \$5,000 and planned for fiscal year 2000, include removal of the SALSR building which contains lead-based paint. The FAA is the lead agency for restoration activities (MOU 1999).

Surface water is not expected to be a significant migration pathway at the site. The site is accessible; the town of Metlakatla is located approximately 5 miles north of the site.

3.33A Landing Field (Site 33A)

The Landing Field, constructed during WW II, consists of two runways: a 7,500-foot asphalt runway (Runway A) oriented northwest to southeast and a 6,000 feet gravel runway (Runway B) oriented northeast to southwest (Figure 3-16). The Landing Field was included in the LRI of the Metlakatla Peninsula performed by REI. Numerous 55-gallon drums of asphalt were observed along the runways, mostly in airplane parking revetments. Reportedly, herbicides were periodically applied to the runway edges by the FAA to inhibit vegetation growth. Numerous areas where vegetation was stressed or absent were observed during the LRI. A total of three surface soil samples were collected: two at the north end of Runway B and one along the east side of Runway A, south of the Runway B intersection. The following contaminants were detected in the sample collected along Runway A: RRO (93 mg/kg), barium (37.3 mg/kg), chromium (184 mg/kg), lead (62 mg/kg), mercury (0.05 mg/kg), 2-butanone (550 µg/kg), and toluene (290 µg/kg). The first sample collected at the north end of Runway B contained DRO (110 mg/kg), RRO (720 mg/kg), barium (12 mg/kg), and lead (170 mg/kg). The second sample collected from the north end of Runway B contained DRO (180 mg/kg), RRO (1,200 mg/kg), barium (11.7 mg/kg), and lead (160 mg/kg). No herbicides, pesticides, or PCBs were detected in the Landing Field surface soil samples. (REI 1998b)

Restoration activities at the Landing Field include removing 55-gallon drums from revetments and investigating soil potentially contaminated by herbicides. Site restoration is estimated at \$500,000 and is scheduled for fiscal years 2004-2006. The C3 Plan indicates SHPO issues exist at the site. The Landing Field is owned and operated by the FAA; hence, the FAA is the lead agency in restoration efforts. (MOU 1999)

Surface water is not expected to be a significant migration pathway at the site. The site is accessible; the town of Metlakatla is located approximately 5 miles north of the site.

3.33B Former USCG Storage Area (Site 33B)

The USCG Storage Area consists of a taxiway and two circular parking revetments in the south central portion of Runway B (Site 33A; Figure 3-17). The site was originally leased by the USCG from the CAA. Specific operations at the site are unknown, however, a 1952 USCG map labeled the site "*Ammo. Storage Area*" implying that munitions were stored at the site. A 1946 USACE plot plan indicates that Revetments H-38, H-39, and H-40 are located at the site. Approximately two hundred 55-gallon drums, filled with what is believed to be asphalt, were reportedly abandoned at Revetment H-40 by numerous agencies, including the USN, the USAF, and the BIA. (CH2 2000)

In 1999, USAED, Alaska, performed a removal action and completed a remedial investigation at several sites on the Metlakatla Peninsula, including the Former USCG Storage Area. A total of one hundred and forty-two 55-gallon drums were removed from Revetment H-40, including eight clean drums and 134 waste drums that were empty or contained varying amounts of asphalt. Some hardened patches of asphalt remain along the edge of the parking revetment and in the adjacent wetland. After drum removal at Revetment H-40, nine soil samples, three sediment samples, three surface water samples, and one groundwater sample were collected to identify possible contaminant releases from the former 55-gallon drums. DRO and RRO were detected in each media throughout the former drum dump area at concentrations exceeding risk-based screening criteria. However, the DRO and RRO chromatograms indicate that the soil and groundwater organics were primarily biogenic material while the sediment and surface water organics were a combination of biogenic material and unidentified petroleum compounds. Chromium, arsenic, and lead were commonly detected at concentrations exceeding risk-based screening criteria in different site media. Elevated lead concentrations are likely due to local utilization of the area as an informal firing range. Numerous SVOCs were also detected above risk-based screening criteria in different site media. The remedial investigation concluded that soil and groundwater in the area do not appear to be impacted by POL, but surface water and sediment are impacted by POL. However, no

recommendations are provided to address the POL contamination. In order to determine the significance of metals detections above risk-based screening criteria, the remedial investigation recommended a background metals study for groundwater and sediment. (JEG 2000c)

Another seven waste drums were removed from Revetment H-38. After drum removal at Revetment H-38, two soil samples, three sediment samples, and one surface water sample were collected to identify possible contaminant releases from the former 55-gallon drums. DRO and RRO were detected in soil and sediment throughout the former drum dump area at concentrations exceeding risk-based screening criteria. Chromatograms indicate the organics in site media are primarily jet fuel or diesel fuel, with small amounts of biogenic material. Lead and arsenic were detected at concentrations exceeding risk-based screening criteria in on-site soil, while lead and barium were detected in surface water at concentrations exceeding risk-based screening criteria. Elevated lead concentrations are likely due to local utilization of the area as an informal firing range. In order to determine the significance of metals detections above risk-based screening criteria, the remedial investigation recommended a background metals study for surface water. (JEG 2000c)

A preliminary assessment (PA) performed by the USCG documented current conditions at the Former USCG Storage Area. Several junked cars, car parts, household appliances, and miscellaneous debris were observed at Revetment H-38. A recently constructed wood target range and spent shell casings were observed at Revetment H-40. Solidified asphalt was observed on the gravel pad constituting Revetment H-40 and in the adjacent wetlands. Some 55-gallon drums remain in the wetlands adjacent to the circular revetments. Remains of Revetment 39 are limited to scattered wood debris. One sediment sample was collected during PA activities at approximately 10 feet from the southern side of Revetment 40 in a vegetated area near asphalt remains. The sample was analyzed for GRO, DRO, RRO, and BTEX; DRO (1,000 mg/kg) and RRO (4,000 mg/kg) were detected in the sediment sample. (CH2 2000)

Restoration activities at the site, estimated at \$75,000 and scheduled for fiscal years 1999-2001, include the removal of drums and fuel-contaminated soil from Revetments H-38, H-39, and H-40. The majority of drums have been removed from the site; however, a few drums reportedly remain in the wetlands adjacent to the site. Contaminants in soil have been identified, but soil removal activities have not yet occurred. The USCG is the lead agency for restoration activities at the site. (MOU 1999; CH2 2000; JEG 2000c)

Wetlands surround the parking revetments at the site; site contaminants have been detected in wetland sediments. A lake is located southwest of Revetment H-38; the lake has a drainage area of

91 acres and covers a surface area of 14.4 acres (USFWS 1983). Coho salmon have been documented in the lake (USFWS 1983); however, the lake appears isolated, and it is unclear how coho salmon migrate to the lake. The site is accessible and used regularly as a firing range by MIC residents, even though the town of Metlakatla is located approximately 6 miles north of the site. Human exposure to site contaminants is a significant concern.

3.33C Landing Field - Firing Ranges near Runway B (Site 33C)

The location of this site is identical to the Former USCG Storage Area (Site 33B). It is unclear whether this site refers to a historic military firing range or to informal firing ranges established by local residences at Revetments H-38 and H-40 (Figure 3-17). Lead has been detected in soil at both Revetments H-38 and H-40. It is possible that this site was created for administrative reasons such as identifying a different lead agency or different restoration activities. Restoration at this site includes investigating and removing lead in site media. Restoration efforts are estimated at \$100,000 and are scheduled for fiscal years 2000-2002. The FUDS Program associated with USAED, Alaska, is the lead agency for restoration activities at the site. (MOU 1999)

Wetlands surround the parking revetments at the site; site contaminants have been detected in wetland sediments. A lake is located southwest of Revetment H-38; the lake has a drainage area of 91 acres and covers a surface area of 14.4 acres (USFWS 1983). Coho salmon have been documented in the lake (USFWS 1983); however, the lake appears isolated, and it is unclear how coho salmon migrate to the lake. The site is accessible and used regularly as a firing range by MIC residents, even though the town of Metlakatla is located approximately 6 miles north of the site. Human exposure to site contaminants is a significant concern.

3.34 Runway to Camp Road (Plank Rd.; Site 34)

The Runway to Camp Road is an approximately 8,400-foot-long and 25-foot-wide road connecting the north end of Runway A (Site 33A) to the former military construction camp at Crab Point (Site 48). The road was constructed of wood planks, elevated on pilings, and covered with gravel. A petroleum pipeline followed the road. All sections of the road have collapsed. An unknown number of discarded, empty 55-gallon drums are located near the junction of Runway A and the road. The drums appear to have been cut in half along the long axis and the ends have been welded together. The fabricated drums are located in standing surface water near the runway/road intersection. Removal activities at the site, including road and drum removal, are estimated at \$5,000,000 and are scheduled for

fiscal years 2006-2008. The C3 Plan indicates that SHPO issues exist at the site. The FAA is the lead agency for restoration activities at the site. (REI 1998a, 1998b; MOU 1999)

The road is lined with small, isolated wetlands throughout its entire length. Petroleum-related contaminants have been detected in wetland sediments, as indicated by analytical data gathered during an assessment of the Fuel Pipeline System (Site 39A; see Section 3.39A, page 3-40). The site is accessible; the town of Metlakatla is approximately 5 miles north of the site.

3.35 Small Tower (Site 35)

A small tower, apparently not associated with other sites on the peninsula, is located at the north end of Runway A (Site 33A) on the south side of the former Runway to Camp Road (Site 34). The tower was somehow utilized in airport operations. Restoration at the site includes removal of lead-based paint on the tower. The cost is estimated at \$5,000 and is scheduled for fiscal year 2000. The C3 Plan indicates SHPO issues exist at the site. The FAA is the lead agency for restoration activities. (REI 1998a; MOU 1999)

Surface water is not expected to be a significant migration pathway at the site. The site is accessible; the town of Metlakatla is located approximately 5 miles north of the site.

3.36 Glide Slope Facility (Site 36)

Located along the northeast end of the Runway A, the Glide Slope (GS) Transmitter Facility consists of an antenna tower with a large transformer and a small building that houses transformers, capacitors, and voltage stabilizers (Figure 3-18). The FAA leased the facility until 1973; ownership has likely reverted back to the MIC. During an FAA ECI, electrical equipment at the facility was not sampled; hence, PCBs were identified as a potential contaminant of concern. However, the USACE previously sampled a large (approximately 30 gallons), inactive, leaking transformer located outside the GS building and determined that PCB concentration in the transformer oil was less than 5 mg/kg. (E & E 1992)

During interim cleanup (IC) activities at the site in 1994, the approximately 15 gallons of transformer oil from the large, leaking transformer identified above was pumped into a 55-gallon drum. The transformer and oil were later disposed of at an approved facility. (E & E 1995a)

During an FAA Removal Action in 1995, a single 10-KVA oil-filled transformer (less than 5 ppm PCBs) was drained and removed from the GS Transmitter Facility. No other electrical equipment was removed from the site during the removal action. (E & E 1995b)

Reportedly, PCB-containing equipment was removed during 1996-1997. Therefore, it is assumed that no PCB-containing electrical equipment remains on site. Restoration activities, estimated at \$15,000 and scheduled for fiscal years 1999-2000, are limited to removing the remains of the GS building because it contains lead-based paint. The C3 Plan indicates that SHPO issues exist at the site. The FAA is the lead agency for restoration activities. (MOU 1999)

Wetlands surround the site but are believed to be isolated. The site is accessible; the town of Metlakatla is located approximately 5 miles north of the site.

3.37 Sand Shed/Asphalt Plant (Site 37)

The Asphalt Plant was located on the northeast side of Runway A (Site 33A), south of the Runway to Camp Road (i.e., Plank Road, Site 34; Figure 3-18). As depicted in a 1948 photo, the Asphalt Plant was the central asphalt manufacturing area for the peninsula, complete with batching equipment, fuel storage tanks, and hundreds of 55-gallon drums. Approximately 800 drums, mostly buried, are located at the site. (FAA 1997)

The FAA performed a Phase II Field Investigation at the Annette Island Landing Field, including the Asphalt Plant. Two surface soil samples were collected at the Asphalt Plant; one near the northeast corner of the plant and another northeast of the plant across the dirt road. Soil samples were submitted for American Society of Testing Materials testing to characterize the tar-like substance found in the soil. Characterization tests indicate that the material is a typical road asphalt suitable for asphalt cement. (E & E 1990)

The FAA performed a removal action in 1995 at a number of sites associated with the Annette Island Landing Field, including the Sand Shed storage building. Two 55-gallon drums were removed from the Sand Shed and disposed of at an approved facility. One drum was labeled "Union Carbide Corp., ethylene glycol" but reportedly was three quarters full of low-level PCB (i.e., less than 50 ppm) oil, water, and possibly hydraulic oil. The second drum had no markings but appeared to be approximately one quarter full of used oil. (E & E 1995b)

The Sand Shed/Asphalt Plant was included in the LRI performed by REI on sites throughout the Metlakatla Peninsula. The remains at the Sand Shed/Asphalt Plant consist of charred wood debris, metal, and remnants of a sand pile. Reportedly, the sand was used on the runway during icy conditions. A layer of asphalt covers the ground in the area. Several 55-gallon drums were observed resting on the ground while others were partially buried. REI performed an electromagnetic survey during the LRI. A large magnetic anomaly exists in the northeast portion of the site; 55-gallon drums are possibly buried at that

location. The magnetic anomaly measures approximately 30 feet wide, 400 feet long, and several feet deep. Two tar/asphalt samples were collected from a leaking drum located in the northeast portion of a visible contaminated area. The drum was located in standing water at the northeast edge of the site. It is unclear which contaminants were detected in each specific sample; however, the following contaminants apparently were detected in one of the two asphalt samples: DRO (8,800 mg/kg); RRO (140,000 mg/kg); barium (0.6 mg/kg); 2-butanone (1,900 µg/kg); 1,1,2-trichloroethane (520 µg/kg); benzene (370 µg/kg); toluene (1,200 µg/kg); ethylbenzene (880 µg/kg); m,p-xylene (2,000 µg/kg); o-xylene (1,500 µg/kg); 1,3,5-trimethylbenzene (760 µg/kg); 1,2,4-trimethylbenzene (2,900 µg/kg); n-propylbenzene (650 µg/kg); 4-isopropyltoluene (540 µg/kg); and chrysene (7,200 µg/kg). (REI 1998b)

Planned restoration activities at the site are extensive. Approximately \$3,000,000 of work is planned for fiscal years 1999-2004. Site restoration includes the removal of 55-gallon drums, lead in the soil, burned building remains, and metal bands. Other restoration plans include investigating and potentially removing the tar pit, sampling sand shed soil for antifreeze, and water analysis to investigate black water contamination. The C3 Plan indicates that SHPO issues exist at the site. The FAA is the lead agency for restoration activities. (MOU 1999)

Wetlands surround the site but are believed to be isolated. The site is accessible; the town of Metlakatla is located approximately 5 miles north of the site.

3.38 DoD Sawmill (Site 38)

The DoD Sawmill, located along the northwest side of the Runway to Camp Road (Site 34), provided lumber for construction needs on the peninsula. Restoration activities at the site, estimated at \$50,000 and scheduled for fiscal year 2004, include removing the existing debris and investigating potential contamination related to sawmill operations. Although not explicitly stated, potential contaminants of concern at the Sawmill could be wood preservative and POL. The FUDS Program associated with USAED, Alaska, is the lead agency for restoration activities at the site. (MOU 1999)

Surface water is not expected to be a significant migration pathway at the site. The site is accessible; the town of Metlakatla is located approximately 5 miles north of the site.

3.39A Fuel Pipeline System (Site 39A)

An extensive Fuel Pipeline System transported fuel from the coastal tank farms in the Crab Point area to runway fueling pits and storage tanks around the peninsula. The pipeline system consisted of approximately 6.8 miles of tar-coated welded steel pipeline. Because of the size of this site, restoration

activities are extensive. Approximately \$5,000,000 over fiscal years 1999-2004 is allotted to remove fuel from the pipeline and to investigate potential soil contamination related to pipeline operation.

(REI 1998a; MOU 1999)

In 1998, USAED, Alaska, performed a RI at seven sites within the Fuel Pipeline System, including the Tactical Gasoline Storage and Fueling System Area, the operations Reserve Storage System Area, the Runway to Camp Road (Plank Road), the Runway to Camp Road near Crab Point (Main Dock Road), the Ramp to Runway Road in the Crab Point area (Seaplane Ramp Road), the Runway A area, and the Fuel Storage Tanks Area. All soil, sediment, and surface water samples collected during this investigation were analyzed for GRO, DRO, RRO, BTEX, PAHs, and lead (DOWL 1999).

The Tactical Gasoline Storage and Fueling System consisted of five 25,000-gallon USTs, two separator and pressure pits, one valve box, and associated system piping. A total of seven soil samples, six sediment samples, three surface water samples, and two pipe tap samples were collected in the area. DRO was detected in three of the soil/sediment samples at a maximum concentration of 3,500 mg/kg. GRO was detected in 10 of the soil/sediment samples at a maximum concentration of 59 mg/kg. RRO was detected in 10 of the soil/sediment samples at a maximum concentration of 16,000 mg/kg. Xylene was the only BTEX compound detected; xylene was detected in two soil/sediment samples at a maximum concentration of 0.91 mg/kg. Lead was detected in all soil/sediment samples at a maximum concentration of 3,200 mg/kg. PAHs were detected in all six soil/sediment samples in which they were analyzed; however, the actual PAH concentrations are unclear from the report. GRO, DRO, RRO, and PAHs were not detected in any surface water sample. Numerous BTEX compounds were detected in multiple surface water samples; the maximum BTEX concentration was 0.01 milligrams per liter (mg/L). Lead was detected in two surface water samples at a maximum concentration of 0.02 mg/L. Various compounds were detected in the pipe tap samples; GRO was detected at the highest concentrations. (DOWL 1999)

The Operations Reserve Storage System consisted of 15 sets of concrete AST cradles, six valve boxes, one air separator pit, and associated system piping. Reportedly, the 15 ASTs were moved in 1949 to a tank farm near the Main Dock (likely Site 42) run by Standard Oil (now Chevron, Inc.). A total of 19 soil samples, four sediment samples, two surface water samples, and two pipe tap samples were collected from the area. GRO, DRO, RRO, and lead were widespread throughout the Operations Reserve Storage System soil and sediment; maximum concentrations were 710 mg/kg, 10,000 mg/kg, 25,000 mg/kg, and 2,400 mg/kg, respectively. Various BTEX and PAH compounds were detected in multiple soil/sediment samples at maximum concentrations of 12 mg/kg and 1,400 mg/kg, respectively.

GRO, DRO, RRO, and BTEX compounds were not detected in the surface water samples. Lead was detected in one surface water sample at a concentration of 0.11 mg/L. Three PAHs were detected in one surface water sample; maximum concentration was 0.00094 mg/L. All analyzed compounds were detected in the pipe tap samples; GRO was detected at the highest concentrations. (DOWL 1999)

The Runway to Camp Road consisted of approximately 6,500 feet of 6-inch steel pipe that runs adjacent to the deteriorated wood plank road. A valve pit is located at the east end of this line. An 8-inch wood stave water line runs along the opposite side of the road. A total of six soil samples, two sediment samples, two surface water samples, and two pipe tap samples were collected from this area. GRO, DRO, RRO, and lead were found in soil/sediment throughout the area with maximum concentrations of 4.5 mg/kg, 64,000 mg/kg, 83,000 mg/kg, and 110 mg/kg, respectively. BTEX compounds were not detected in site soil/sediment samples. PAHs were detected in multiple soil/sediment samples at a maximum concentration of 250 mg/kg. GRO, DRO, RRO, BTEX compounds, and PAHs were not detected in surface water samples. Lead was detected in one surface water sample at a concentration of 0.0041 mg/L. Multiple compounds were detected in the pipe tap samples; GRO was detected at the highest concentrations. (DOWL 1999)

The Main Dock Road area reportedly consists of three 6-inch pipelines running the length of the dock and elbowing underground at the dock/road intersection. No pipeline could be found along the Main Dock Road. A total of three soil samples, one sediment sample, and two pipe tap samples were collected in the area. GRO, DRO, RRO, lead, and PAHs were detected in soil/sediment throughout the area at maximum concentrations of 15 mg/kg, 350 mg/kg, 770 mg/kg, 61 mg/kg, and 0.26 mg/kg, respectively. No BTEX compounds were detected in the soil/sediment samples. Multiple compounds were detected in the pipe tap samples; DRO was detected at the highest concentrations. (DOWL 1999)

The Seaplane Ramp Road area consists of a valve box, a water separator pit, a fill station area, and approximately 2,000 feet of 3-inch steel gasoline pipe, the actual location of which has not been confirmed because the pipeline is believed to have been buried. A total of three soil samples, one sediment sample, and one pipe tap sample were collected in the area. GRO, DRO, RRO, and lead were detected in multiple soil/sediment sample locations throughout the area at maximum concentrations of 5.8 mg/kg, 1,300 mg/kg, 6,900 mg/kg, and 340 mg/kg, respectively. The only BTEX compound detected was toluene at a concentration of 0.092 mg/kg. Multiple PAHs were detected in the two soil/sediment samples in which PAHs were analyzed; maximum concentration was 2.9 mg/kg. Multiple compounds were detected in the pipe tap sample; GRO was detected at the highest concentrations. (DOWL 1999)

The Runway A area consists of a hangar, four fueling pits, a fill stand, a valve box, and approximately 5,750 feet of 6-inch steel pipeline used to distribute fuel. Two fueling pits on the north side of the apron and one on the south along with the truck fill stand have been filled in or covered over. A total of six soil samples, three sediment samples, one surface water sample, and four pipe tap samples were collected in the area. All contaminants of concern were detected throughout the area at the following maximum concentrations: GRO (41 mg/kg), DRO (2,200 mg/kg), RRO (7,900 mg/kg), benzene (0.44 mg/kg), toluene (0.49 mg/kg), ethylbenzene (0.1 mg/kg), xylene (5.3 mg/kg), lead (5,800 mg/kg), and PAHs (17 mg/kg). The following compounds were detected in the surface water sample collected in the area: ethylbenzene (0.0013 mg/L), xylene (0.0023 mg/L), and lead (0.0012 mg/L). No other contaminants were detected in the surface water sample. Multiple compounds were detected in the pipe tap samples; GRO was detected at the highest concentrations. (DOWL 1999)

The Fuel Storage Tanks area consists of the remnants of two wood stave fuel storage tanks, one deteriorating wood stave tank, the concrete tank saddles, and approximately 1,500 feet of 6-inch pipeline that connected the tanks to the Main Dock area. Stained soil, stressed vegetation, and petroleum odor were noted throughout the area. A total of 12 soil samples, four sediment samples, one surface water sample, and one pipe tap sample were collected in the area. GRO, DRO, RRO, lead, and PAHs were detected in soil/sediment samples throughout the area at maximum concentrations of 54 mg/kg, 910,000 mg/kg, 91,000 mg/kg, 2,700 mg/kg, and 7.4 mg/kg, respectively. The only BTEX compound detected in the soil/sediment samples was toluene at a concentration of 0.26 mg/kg. No contaminants were detected in the surface water sample collected at this location. Multiple compounds were detected in the pipe tap sample; RRO was detected at the highest concentrations. (DOWL 1999)

USAED, Alaska, decommissioned and removed five 25,000-gallon steel USTs (named FUDS USTs 1 through 5) and associated piping from the Tactical Gasoline Storage and Fueling area. An intact mercury switch was located at FUDS UST-2; the switch was removed, containerized, and disposed of at an approved facility. Electrical conduit sheathed in lead was discovered at all FUDS USTs; the lead conduit was pulled away from the excavations and flagged with survey tape. A total of 488 cubic yards of potentially contaminated soil was removed during the five UST excavations. Excavated soils were sampled for petroleum contaminants to determine the feasibility of using excavated materials as backfill. Contaminated soil was containerized for disposal and clean soil was used to backfill excavations. Excavation wall and bottom samples were collected at each UST excavation to investigate the presence of contaminants in on-site soils. Based on confirmation sample analytical results, no further soil removal action is needed at FUDS UST-5. Further investigation is needed at FUDS USTs 1 through 4 to

determine the amount of additional soil excavation necessary to achieve Alaska Department of Environmental Conservation (ADEC) soil cleanup levels. (HLA/WC 1999c)

During the USAED, Alaska, Removal Action/RI in 1999, pipeline draining, identification of POL-contaminated soil, and removal of transformers/capacitors along the pipeline were planned for sections 1, 2, 4, 5, and 6 of the pipeline (sections adjacent to the Runway to Camp Road [Site 34]) and the 80,000-gallon AST area. However, to date, only two background soil samples have been collected; one at pipeline section 2 and the other at the 80,000-gallon AST location. Samples indicate that barium, chromium, lead, DRO, and RRO were present in each background soil sample. The remaining work planned for the fuel pipeline system will continue in 2000 (JEG 2000c). Based on beneficial use of the site after military use, Standard Oil (now Chevron, Inc.) may have some responsibility in restoration activities. The FUDS Program associated with USAED, Alaska, is the lead agency in restoration activities (MOU 1999).

Small, isolated wetlands are located along most of the pipeline route. The north end of the pipeline is adjacent to Tamgas Harbor; site contaminants have been detected in beach sediments in the vicinity. Tamgas Harbor is an important subsistence gathering and recreation area for MIC residents. The site is accessible; the town of Metlakatla is located approximately 5 miles north of the site.

3.39B Fuel Pipeline System (Site 39B)

The Tamgas Harbor Dock fuel pipeline is included in Site 43A; all details of this site are included in Section 3.43A below.

3.40 Pipeline Oil/Water Separators (Site 40)

Three oil/water separators were reportedly associated with the Fuel Pipeline System (Site 39A); two were located north of the junction of Runway A (Site 33A) and the Runway to Camp Road (Site 34) and one was located in the Crab Point area near the South Tamgas Harbor Dock (Site 43A). Remains of the oil/water separators include concrete vaults, piping, gauges, and valves. (REI 1998a)

In 1998, USAED, Alaska, performed an RI at seven sites throughout the Metlakatla Peninsula, including the oil/water separator in the Crab Point area. A sediment sample was collected from the bottom of the separator pit and analyzed for GRO, DRO, RRO, BTEX, PAHs, and lead. RRO was detected at 6,900 mg/kg and lead was detected at 340 mg/kg. (DOWL 1999)

The USCG performed a PA at the oil/water separator located in the Crab Point area north of the USCG Fire Station/Post Exchange (Site 46) along the Seaplane Ramp Road. As of 1999, remains at the

site consisted of a concrete vault, a large tank, metal piping, gauges, and valves. No samples were collected during the PA; visual observations at the site did not detect any possible sources of contamination in addition to the separator vault. (CH2 2000)

Approximately \$80,000 of restoration activities at the site are planned for fiscal years 2001-2003. Restoration at the site includes draining the fuel lines and removing/cleaning POL-contaminated soil; restoration work should be performed in conjunction with restoration of the fuel pipeline system (Site 39A). The USCG is the lead agency for restoration activities at the site. (MOU 1999)

Wetlands surround the site but are believed to be isolated. The site is accessible; the town of Metlakatla is located approximately 5 miles north of the site.

3.41 Tanker Truck Loading Facility - Tank Farm (Site 41)

Associated with the fuel pipeline system, the Tanker Truck Loading Facility is located near the junction of the Runway to Camp Road and the Seaplane Ramp Road. Site operations consisted of loading tanker trucks with fuel from the pipeline system. The facility was leased to Standard Oil (now Chevron, Inc.) by the FAA for over 25 years. Restoration activities at the site, estimated at \$100,000 and planned for fiscal years 1999-2002, include removing or remediating POL-contaminated soil. Standard Oil and the MIC have been identified as potentially responsible parties to assist in restoration efforts. The FAA is the lead agency for restoration efforts. (MOU 1999)

Wetlands surround the site but are believed to be isolated. Tamgas Harbor is approximately 0.5 mile from the site. The site is accessible; the town of Metlakatla is located approximately 5 miles north of the site.

3.42 FAA Tank Farm (Site 42)

The FAA Tank Farm was located adjacent to the Main Dock in South Tamgas Harbor (Site 43) in the Crab Point area. The tank farm consisted of fifteen 50,000-gallon ASTs, two 25,000-gallon ASTs, one 12,000-gallon ASTs, three 10,000-gallon ASTs, and a tanker truck loading platform (Figure 3-19). Eight of the 50,000-gallon tanks were removed from the site in the late 1980s. The tank farm was built in the early 1940s to store and route fuel to storage tanks in support of airfield operations during WW II. The tank farm ceased operations in 1977. During the site's operational period, approximately 500,000 to 1,500,000 gallons of fuel were used annually. Several parties either owned or operated the tank farm, including the Army, the CAA, the FAA, Standard Oil (now Chevron, Inc.), and the MIC. (JEG 2000a)

The FAA performed a Phase II Field Investigation at the tank farm in 1989. Twelve soil samples indicate the presence of lead, dichlorodiphenyldichloroethane (DDD), DDT, and numerous petroleum-related contaminants in the tank farm area. Pesticides were detected at low levels and are unlikely to constitute a significant source of contamination; lead and petroleum contaminants were detected at elevated levels and remain a potential source of contamination. A single surface water sample was collected and analyzed for TPHs only; none were detected. (E & E 1990)

The FAA performed fuel recovery operations at multiple sites throughout the peninsula, including the FAA Tank Farm. Unused fuel from ASTs at the tank farm was pumped into a portable tank. Actual volume of fuel recovered from the FAA Tank Farm is unknown because reported fuel recovery volumes are combined with other sites. The portable tank was shipped to Burlington Environmental, Inc., for energy recovery. (HLA 1996)

REI performed a LRI at numerous sites around the Metlakatla Peninsula, including the FAA Tank Farm. Remains at the site currently include a tanker truck fuel loading dock, seven 50,000-gallon ASTs, two 25,000-gallon ASTs, one 12,000-gallon AST, three 10,000-gallon ASTs, and associated piping. Eight additional 50,000-gallon ASTs formerly located at the site were moved to the electrical generating facility in Metlakatla in the late 1980s. Stained soil and a strong petroleum odor were noted throughout the tank farm. Approximately 6 inches of surface water covered the site and a petroleum sheen was noted throughout the site. A four-part composite sample was collected in the tanker truck fuel-loading dock; DRO (19,000 mg/kg), RRO (410 mg/kg), and lead (1,110 mg/kg) were detected in the sample. (REI 1998b)

In 1998, USAED, Alaska, performed a RI at numerous sites throughout the peninsula, including the FAA Tank Farm. Four marine sediment samples were collected and analyzed for GRO, BTEX, DRO, RRO, and lead. DRO (350 mg/kg) and RRO (770 mg/kg) were detected in one sediment sample near the northeast corner of the tank farm at concentrations exceeding the MIC cleanup level. (DOWL 1999)

In spring 2000, USAED, Alaska, collected beach sediment samples along migration routes from the FAA Tank Farm in an effort to determine the nature and general areal extent of potential contamination present in the beach areas for the purpose of developing remedial alternatives for the site. A total of 43 test pits were hand dug in a grid pattern in the intertidal sediments north and south of the Tamgas Harbor Dock to delineate presence of black-stained sediments. Four sediment samples were collected from areas of observed black-stained sediment and analyzed for GRO, DRO, RRO, BTEX, PAHs, and total lead. GRO, DRO, RRO, and BTEX were not detected in any sediment sample. Trace

amounts of PAHs were detected in each sample; except for benzo(b)fluoranthene (0.13 mg/kg) in a north beach sample, all PAH concentrations were below risk-based screening levels. Lead was detected in all sediment samples at a concentration at least one order of magnitude below the risk-based screening levels. Analytical data suggests that fuel-related contaminants were present at the site at one time but have largely attenuated to concentrations below regulatory levels. Groundwater has been postulated as the primary transport mechanism of contaminants from upgradient sources to the beach area sediments. (JEG 2000b)

USAED, Alaska, has begun to evaluate remedial alternatives for the FAA Tank Farm site. Because additional data needs have been identified, selection of remedial alternatives is an evolving process as new data emerges. To simplify remedial efforts, the FAA Tank Farm has been divided into nine potential source areas: Standard Oil Tank Farm, North Tank Farm Beach, South Tank Farm Beach, North Army Beach Tanks, South Army Beach Tanks, Standard Oil Tank Farm Building, Standard Oil Settling AST, Heavy Equipment Warehouse, and Storm Sewer Outfall. Remedial alternatives for each source area were evaluated based on the following criteria: technically implementable, field-proven in Alaska, satisfies the remedial action objectives, cost-effective, and community preference. Because additional data is necessary, remedial action alternatives for each source area have not been chosen. (JEG 2000a)

Chevron, Inc. (formerly Standard Oil) and the MIC are potentially responsible parties for environmental remediation at the tank farm. Restoration efforts at the site, estimated at \$5,000,000 and planned for fiscal years 1999-2008, include the remediation or removal of contaminated soil at the site and an investigation of the effects contaminant migration has had on Tamgas Harbor wildlife. The C3 Plan indicates that SHPO issues exist at the site. The FAA is the lead agency for restoration efforts at the site. (MOU 1999)

Wetlands are located north and west of the site. Tamgas Harbor is approximately 500 feet from the site. Surface water at the site likely flows via overland flow from the wetlands to Tamgas Harbor or via a roadside drainage ditch along the southeast side of the site. The site is accessible; the town of Metlakatla is located approximately 5 miles north of the site.

3.43A South Tamgas Harbor Dock - Dock and Pipeline (Site 43A)

The South Tamgas Harbor Dock, approximately 800 feet in length including the dock and ramp, was the main dock for cargo and fuel shipments arriving at the airfield during WW II (Figure 3-19). Cargo was off-loaded by a large dock derrick and fuel via pipelines connected to the main tank farm

(Site 42). The dock was owned and operated by the FAA and used by Standard Oil (now Chevron, Inc.) for over 25 years. The pipeline along the dock was owned by Standard Oil and the MIC. Operations at the site likely ceased around 1977, the same time as the tank farm (Site 42). (REI 1998b; MOU 1999)

REI performed a LRI at numerous sites around the Metlakatla Peninsula, including the South Tamgas Harbor Dock. Remains at the site include a rock-filled ramp, an approximately 15-foot-wide piling-supported pier, and a 50-foot-wide loading/unloading dock. Stained soil was noted on the roadway between the dock (Site 43A) and tank farm (Site 42). No petroleum odor was noted in the soil; the soil staining appears to be the result of a leak in one of the pipelines coming from the dock. No petroleum sheen was noted on surface water in Tamgas Harbor. A soil sample was collected from a stained soil area on the roadway at the landward end of the rock-filled ramp. The following contaminants were detected in the soil sample: DRO (9.8 mg/kg), RRO (65 mg/kg), lead (6 mg/kg), barium (17.6 mg/kg), cadmium (0.5 mg/kg), chromium (91 mg/kg), pyrene (89 µg/kg), bis(2-ethylhexyl)phthalate (96 µg/kg), and chrysene (85 µg/kg). (REI 1998b)

In February 1999, the USCG Marine Safety Detachment was notified by the FAA of a possible threat of oil discharge from an abandoned marine transfer facility in Tamgas Harbor. Two inspections of the site revealed three six-inch pipelines in very poor condition. The dock on which the pipeline was attached had deteriorated to a point where the pipelines were resting on the bottom of Tamgas Harbor. The shore side supports were either non-existent or they had shifted position and were no longer providing any support to the pipeline. After the inspections, and based on other information gathered (such as the occurrence of subsistence harvest and recreation in Tamgas Harbor), the USCG determined the piping to be an imminent and substantial threat of discharge. Acting under the auspices of the Oil Pollution Control Act of 1990, the USCG contacted the FAA and the BIA as potentially responsible parties for the imminent threat of discharge; both organizations denied responsibility for the threat. The USCG chose to access the Oil Spill Liability Trust Fund and begun removal actions at the site in April, 1999. Petroleum product was removed from each pipeline one section (approximately 150 feet) at a time. The pipe section was then removed and moved to a lined storage area. Removal operations began at the shoreline and proceeded to the end of the dock. The pipeline was removed up to the road crossing, where pipes needed to be excavated for removal. Removal activities were completed in May 1999; all removed material was transferred to the MIC who assumed responsibility for disposal. (USCG 2000)

Restoration efforts at the site include the removal of fuel and pipeline from the site; however, the USCG has already completed a removal action at the site as described above. Therefore, it is uncertain what will occur with the \$100,000 of restoration activities planned at the site during fiscal years

1999-2004. The C3 Plan indicates SHPO issues exist at the site. The FAA is the lead agency for restoration activities at the South Tamgas Harbor Dock. (MOU 1999)

The dock is located in Tamgas Harbor, an important subsistence gathering and recreation area for members of the community. The site is accessible; the town of Metlakatla is located approximately 5 miles north of the site.

3.43B South Tamgas Harbor Dock - Ordnance (Site 43B)

Reportedly, ordnance may have been dumped into the harbor at the end of WW II. An offshore munitions search around Annette Island was conducted by Alaska Commercial Divers, Inc. No munitions were located during the dive; however, a transformer and other debris were located. (ACD n.d.)

Restoration efforts at the site include the investigation of possible ordnance and dumped debris in the dock vicinity. As described above, this has already occurred; therefore, it is uncertain what site restoration will occur with the \$50,000 slated for fiscal year 2001. It is unknown whether the transformer and debris discovered during the munitions search will be removed as part of the C3 Plan. The FUDS Program associated with USAED, Alaska, is the lead agency for restoration activities at the site. (MOU 1999)

The dock is located in Tamgas Harbor, an important subsistence gathering and recreation area for members of the community. The site is accessible; the town of Metlakatla is located approximately 5 miles north of the site.

3.44 USCG Housing (Site 44)

The USCG Housing area consisted of 14 residential buildings along Tamgas Harbor near the Seaplane Base (Site 45A). All of the buildings were removed from Annette Island and brought to Sitka in 1977 when the USCG moved its operation. Thus, only the concrete foundations remain at this location (Figure 3-20). The two large buildings east of the Seaplane Ramp each had an associated heating oil UST. Each tank currently contains a mixture of water and product. A soil sample collected at one of the UST fill pipes contained DRO (96 mg/kg), RRO (35 mg/kg), and lead (6 mg/kg). A 6,000-gallon AST supplied heating fuel to the other 12 residential buildings; the AST has been removed, but the concrete saddles remain. A soil sample collected near the AST saddles contained DRO (740 mg/kg), RRO (18 mg/kg), and lead (3 mg/kg). (REI 1998b)

The USCG Housing was included in an asbestos survey performed by the MIC in 1997. Scattered remains of cementitious water pipes and transit wallboard found in the vicinity of the former USCG Housing contained ACM. (CH2 2000)

The USTs and associated piping, the AST concrete saddles, and the AST-associated piping was decommissioned in 1998. All fluids were removed from the piping and USTs; USTs, UST piping, and AST piping were excavated and removed. Contaminated soil associated with the tanks was also removed. Soil samples confirm that all POL-contaminated soil was removed. (HLA/WC 1999a)

Restoration activities at the site include the removal of fuel tanks, fuel lines, and associated POL-contaminated soil. As described above, these activities were completed in 1998. Therefore, the \$150,000 of restoration activities planned for fiscal years 2002-2004 appear to have been completed. The USCG is the lead agency for restoration activities at the site. (MOU 1999)

The site was located along Tamgas Harbor, an important subsistence gathering and recreation area for members of the community. Coast Guard Stream, a rapid-flowing creek with a volume of 30 cfs, is located southwest of the site (USFWS 1983). The stream supports pink and chum salmon (USFWS 1983). The site is accessible; the town of Metlakatla is located approximately 5 miles north of the site.

3.45A USCG Seaplane Base (Site 45A)

The Seaplane Base consisted of an approximately 150-foot gravel-covered seaplane ramp, wood frame support facilities, a fueling valve box, and a 3-inch fuel pipeline that ran alongside the Ramp to Runway Road (Figure 3-20). Remains at the site consist of the gravel ramp, dilapidated wood frame buildings, and miscellaneous wood and metal debris. (CH2 2000)

USAED, Alaska, performed a RI at numerous sites throughout the peninsula, including the Seaplane Base. A total of three soil samples, one sediment sample, and one pipe tap sample were collected in the area: one at the valve box, one from the oil/water separator pit, and three along the pipeline adjacent to the Ramp to Runway Road. GRO, DRO, RRO, and lead were detected in multiple soil/sediment sample locations throughout the area at maximum concentrations of 5.8 mg/kg, 1,300 mg/kg, 6,900 mg/kg, and 340 mg/kg, respectively. The only BTEX compound detected was toluene at a concentration of 0.092 mg/kg. Multiple PAHs were detected in the two soil/sediment samples in which PAHs were analyzed; maximum concentration was 2.9 mg/kg. Multiple compounds were detected in the pipe tap sample; GRO was detected at the highest concentrations. (DOWL 1999)

The USCG performed a PA at numerous sites throughout the peninsula, including the Seaplane Base. A single soil sample was collected near the pipeline valve box and analyzed for DRO, RRO, GRO, and BTEX. RRO was detected at 23 mg/kg; no other contaminant was detected. (CH2 2000)

Restoration activities at the site, totaling \$25,000 planned for fiscal years 2005-2007, consist of removal of lead-based paint materials and other debris. The USCG is the lead agency for restoration activities at the site. (MOU 1999)

The seaplane base was located in Tamgas Harbor, an important subsistence gathering and recreation area for members of the community. The site is accessible; the town of Metlakatla is located approximately 5 miles north of the site.

3.45B USCG Seaplane Base - Ramp Ordnance Dive (Site 45B)

Ordnance may have been dumped into Tamgas Harbor in the Seaplane Ramp vicinity at the end of WW II. Therefore, restoration activities include an investigation of the possible presence of ordnance and debris in Tamgas Harbor. Some \$50,000 of restoration efforts are planned for fiscal year 2001. The FUDS Program associated with USAED, Alaska, is the lead agency for restoration activities at the site. (MOU 1999)

The seaplane base was located in Tamgas Harbor, an important subsistence gathering and recreation area for members of the community. The site is accessible; the town of Metlakatla is located approximately 5 miles north of the site.

3.46 USCG Fire Station/Post Exchange (Site 46)

Remains of the USCG Fire Station/Post Exchange consist of a 40-by-100-foot, single story, cement block building (Figure 3-20). The building was built by the USCG after WW II and housed the fire station and post exchange. A concrete pad behind the building appears to be an electrical equipment pad. Roofing debris is scattered around the area. A UST is believed to be located near the walkway entrance to the post exchange, based on the presence of a standpipe and results of a magnetometer survey. A sample collected at this location indicates the presence of lead (61 mg/kg). (REI 1998b)

The site was included in an asbestos and lead-based paint survey performed by the MIC. Paper/foam wallboard with a white fibrous, powdery coating was determined to be ACM. Interior and exterior paint was determined to be lead-based. (CH2 2000)

An asbestos abatement project was completed in 1999 and ACM from the building and from debris piles on the north and west sides of the building was removed. The quantity of asbestos wallboard

that was removed from the site does not match the quantity of asbestos wallboard that was originally in the building. The whereabouts of the remaining ACM originally located in the building is unknown. (REI 1999)

The USCG performed a PA at numerous sites throughout the peninsula, including the USCG Fire Station/Post Exchange. A small room in the northwest corner of the building contained a concrete pad and was a suspected electrical transformer location. A soil sample was collected approximately 7 feet downgradient from the doorway of the northwest room and analyzed for PCBs. PCBs were not present at detectable levels. (CH2 2000)

Restoration activities at the site, totaling \$95,000 and scheduled for fiscal year 2002, include the removal of lead, asbestos, fuel tanks, fuel lines, and associated contaminated soil. The USCG is the lead agency for restoration activities at the site. (MOU 1999)

The site is located approximately 800 feet from Tamgas Harbor, an important subsistence gathering and recreation area for members of the community. Much of the area has been filled with gravel for various military sites; thus, any wetlands in the area are likely small and isolated. Surface water at the site likely flows via overland flow and a roadside drainage ditch north to Tamgas Harbor. The site is accessible; the town of Metlakatla is located approximately 5 miles north of the site.

3.47A USCG Taxiways and Parking Circles (Site 47A)

Two taxiways connected to the Seaplane Base (Site 45A) were used by USCG amphibious planes. The taxiways have been converted to roadways. The parking circles contain a metal hut, a metal storage shed, pressure-locking metal canisters (i.e., powder canisters), 55-gallon drums, concrete slabs and electrical hook-ups for trailers, and miscellaneous debris (Figure 3-20). The parking circles were reportedly used for storage of fuel removed from the planes. An inactive "Westinghouse" transformer is located on the concrete floor in the standing metal hut located at the southwest parking circle. Three possible AST locations were identified based on the presence of AST cribbing; two locations were at the southeast parking circle and one location was at the southwest parking circle (Figure 3-20). (REI 1998b)

Restoration activities at the site include removal of the electrical transformer, 55-gallon drums, and associated contaminated soil. Some \$25,000 of restoration efforts are scheduled for fiscal years 2000-2002. The USCG is the lead agency for restoration activities at the site. (MOU 1999)

The site is located approximately 800 feet from Tamgas Harbor, an important subsistence gathering and recreation area for members of the community. Much of the area has been filled with gravel for various military sites; thus, any wetlands in the area are likely small and isolated. Surface

water at the site likely flows via overland flow and a roadside drainage ditch north to Tamgas Harbor. A lake is located southwest of the southwesternmost parking circle. Coast Guard Stream, a rapid-flowing creek with a volume of 30 cfs, is also located southwest of the site (USFWS 1983). The stream supports pink and chum salmon (USFWS 1983). The site is accessible; the town of Metlakatla is located approximately 5 miles north of the site.

3.47B USCG Taxiways and Parking Circles - Ordnance Survey (Site 47B)

Metal powder canisters were reportedly moved to this site when empty. USAED, Alaska, performed a removal action at the USCG Taxiways and Parking Circles in 1999. The entire area was surveyed by an unexploded ordnance specialist. A total of 63 metal "powder" canisters were removed from the site; ten of the canisters were given to the MIC. Inspection of the canisters indicated that no reactive powder was present in the canisters; thus, the canisters were disposed of as scrap metal. Investigation of soil, sediment, surface water, and groundwater contamination at the site is to be completed in 2000. Therefore, the \$15,000 of restoration activities at the site, which consisted solely of removing the canisters, appears to have been completed. However, additional funds will likely be needed for the investigation of contamination at the site planned for the summer of 2000 (work plans for this period are presently unavailable). The FUDS Program associated with USAED, Alaska, is the lead agency for restoration activities at the site. (MOU 1999; JEG 2000b)

The site is located approximately 800 feet from Tamgas Harbor, an important subsistence gathering and recreation area for members of the community. Much of the area has been filled with gravel for various military sites; thus, any wetlands in the area are likely small and isolated. Surface water at the site likely flows via overland flow and a roadside drainage ditch north to Tamgas Harbor. A lake is located southwest of the southwesternmost parking circle. Coast Guard Stream, a rapid-flowing creek with a volume of 30 cfs, is also located southwest of the site (USFWS 1983). The stream supports pink and chum salmon (USFWS 1983). The site is accessible; the town of Metlakatla is located approximately 5 miles north of the site.

3.48 Main Construction Camp (Site 48)

Located in the Crab Point area, the Main Construction Camp served as a staging area for personnel and materials used in construction throughout the peninsula and was owned and operated by the FAA for over 25 years; information about other site users is unclear. It is unknown what specific activities occurred at the site. No evidence of analytical data documenting specific site contaminants

could be found. Planned restoration activities at the site are extensive, consisting of \$2,900,000 worth of work over fiscal years 1999-2004; however, no record of commencement of this work could be found. Restoration activities will include the removal of fuel tanks, lead-, fuel-, and PCB-contaminated soil, solvents, septic tanks, asbestos, lead-based paint, and building debris. However, building foundations are scheduled to remain in place. The FAA is the lead agency for restoration activities at the site. (MOU 1999)

The site is located approximately 500 feet from Tamgas Harbor, an important subsistence gathering and recreation area for members of the community. Surface water at the site likely flows via overland flow south to Tamgas Harbor. Deer Creek, a small creek with a volume of 2 cfs, is located approximately 0.25 mile southwest of the site (USFWS 1983). The stream supports pink and coho salmon (USFWS 1983). The site is accessible; the town of Metlakatla is located approximately 5 miles north of the site.

3.49 Gasoline Station (Site 49)

The Gasoline Station consisted of an approximately 30-by-40-foot orange metal building with a wood floor on a wood piling foundation and containing two fuel pump dispensers (Figure 3-21). The site was used by Standard Oil (now Chevron, Inc.) and the FAA for fueling vehicles until the mid-1970s. A small area of stained soil emitting a strong petroleum odor is located approximately 100 feet north of the Gasoline Station. Engine parts, metal piping, and miscellaneous debris is scattered around the perimeter of the Gasoline Station concrete pump dispenser pad. A UST is reportedly present at the site but could not be located through a magnetometer survey. Fuel lines run underground from the fuel pump island to two sets of AST cradles northwest of the building. Two soil samples were collected at the site: one from each set of AST cradles. The western AST cribbing soil sample contained DRO (27,000 mg/kg), GRO (340 mg/kg), xylene (1,500 µg/kg), and lead (56 mg/kg). The eastern AST cribbing soil sample contained DRO (3,100 mg/kg), RRO (120 mg/kg), GRO (21 mg/kg), xylene (88 µg/kg), and lead (218 mg/kg). (REI 1998b)

Reportedly, the site originally consisted of four buildings that were used by Standard Oil, FAA, USCG, and USN. Restoration activities at the site, consisting of \$500,000 and scheduled for fiscal years 1999-2004, include removal or remediation of contaminated soil from the garage, wash, and service area buildings, as well as the removal of lead-based paint from site buildings. The C3 Plan indicates SHPO issues exist at the site. The FAA is the lead agency for restoration activities at the site. (MOU 1999).

The site is located adjacent Tamgas Harbor, an important subsistence gathering and recreation area for members of the community. Surface water at the site likely flows via overland flow northeast to Tamgas Harbor. The site is accessible; the town of Metlakatla is located approximately 5 miles north of the site.

3.50 Fire Truck Hut (Site 50)

The Fire Truck Hut consisted of an approximately 20-by-80-foot metal quonset hut with a concrete foundation (Figure 3-22). The building housed a fire truck and a boiler room, which was used to keep the building heated and the fire truck operational year-round. Wood cribbing for an AST was located on the southeast side of the building. Two soil samples were collected in the vicinity of the AST cribbing. One soil sample contained DRO (1,300 mg/kg), RRO (40 mg/kg), and lead (12 mg/kg) while the second soil sample contained DRO (1,500 mg/kg), RRO (200 mg/kg), and lead (26 mg/kg). (REI 1998b)

REI contracted asbestos abatement work at various sites on Annette Island in 1999, including the Fire Truck Hut. The following ACM was removed from the site: pipe insulation, pipe-fitting insulation, and boiler insulation. All ACM believed to exist at the site was removed. (REI 1999)

Restoration activities at the site include the removal of the fuel tank, fuel-contaminated soil, and lead-based paint. The building will remain in place. Asbestos removal at the site has been separately scheduled by the DoD during 1999; however, no record could be found indicating asbestos removal has occurred. The C3 Plan indicates SHPO issues exist at the site. The FAA is the lead agency for restoration activities at the site. (MOU 1999).

The site is located approximately 800 feet from Tamgas Harbor, an important subsistence gathering and recreation area for members of the community. Surface water at the site likely flows via overland flow and along a roadside drainage ditch north to Tamgas Harbor. The site is accessible; the town of Metlakatla is located approximately 5 miles north of the site.

3.51 FAA Storage Yard (Site 51)

The FAA Storage Yard was a level, 150-by-200-foot gravel area used to store a multitude of airfield operations equipment (Figure 3-22). During the REI LRI at the site in 1998, the following materials were present at the site: a runway sweeper, a small crane, a passenger ramp, a metal portable catwalk, a snow plow attachment, a welder, an insulated pressure tank, three ASTs, two sets of AST cribbing, steel piping with cementitious coating, FAA water pipeline insulation, metal barricades, small

steel tower pieces, empty 55-gallon drums, a trailer containing electrical equipment, and numerous other miscellaneous items. A soil sample was collected in the vicinity of the cribbing for the easternmost AST location. The following contaminants were detected in the soil sample: DRO (590 mg/kg), RRO (36 mg/kg), and lead (103 mg/kg). (REI 1998b)

Restoration activities at the site, consisting of \$100,000 and scheduled for fiscal years 1999-2004, include the removal of fuel tanks; fuel-contaminated soil; lead-based painted, collapsed buildings; equipment; and septic tanks. No record indicating that restoration activities have begun could be found. The site was owned and operated by the FAA for over 25 years, hence the FAA is the lead agency for restoration activities at the site.

The site is located approximately 800 feet from Tamgas Harbor, an important subsistence gathering and recreation area for members of the community. Surface water at the site likely flows via overland flow north to Tamgas Harbor. The site is accessible; the town of Metlakatla is located approximately 5 miles north of the site.

3.52 Waste Water Treatment Pond (Site 52)

The Waste Water Treatment Pond was used to aerate sewage generated from the FAA Housing Area (Site 53A). Reportedly the sewage lagoon needs approximately \$90,000 of repair to be performed in fiscal year 1999 in order to support on-going cleanup activities. However, specific repairs, the support role of the sewage lagoon in restoration activities, and whether the repair work was actually completed in 1999 are unknown. The BIA is the lead agency for restoration activities at the site. (MOU 1999)

The site is located approximately 500 feet from Tamgas Harbor, an important subsistence gathering and recreation area for members of the community. Surface water at the site likely flows via overland flow northeast to Tamgas Harbor. The site is accessible; the town of Metlakatla is located approximately 5 miles north of the site.

3.53A FAA Housing Area - POL and Tanks (Site 53A)

The FAA Housing Area consists of nine two-story, 30-by-50-foot wood framed buildings. A heating oil UST was associated with each building (Figure 3-23). The buildings are still operational; one houses the MIC Forestry and Fisheries Departments, three are used as residences by MIC members, and five are vacant. Two soil samples were collected in the vicinity of two separate USTs: one at building 102 and another at building 105. The building 102 UST soil sample contained DRO (410 mg/kg), RRO (290 mg/kg), and lead (447 mg/kg). The building 105 UST soil sample contained

DRO (720 mg/kg) and lead (192 mg/kg). Ten ASTs are located adjacent to the three occupied buildings and one AST is located next to one of the vacant buildings. Three additional vacant buildings have signs of previous AST presence, such as cribbing or piping. A soil sample was collected adjacent to the AST located at vacant building 102; the sample contained DRO (1,800 mg/kg), RRO (630 mg/kg), and lead (34 mg/kg). (REI 1998b)

The FAA performed fuel recovery operations at multiple sites throughout the peninsula, including the FAA Housing Area. A total of 2,500 gallons of unused fuel from nine USTs, three 55-gallon drums, and one AST were pumped into a portable tank. The portable tank was shipped to Burlington Environmental, Inc. for energy recovery. (HLA 1996)

The FAA began UST and AST removal at the site in 1999. The following tanks were decommissioned and removed from the FAA Housing Area: 800-gallon heating oil UST from building 101; 1,000-gallon heating oil UST from building 102; 1,000-gallon heating oil UST from building 103; 1,650-gallon heating oil AST from building 103; 800-gallon heating oil UST from building 104; 800-gallon heating oil UST from building 105; 800-gallon heating oil UST from building 106; 800-gallon heating oil UST from building 107; 800-gallon heating oil UST from building 108; and 800-gallon heating oil UST from building 109. In addition to tank removal at each location, fuel-contaminated soil was removed based on field screening results; MIC cleanup levels were not reached at most tank removal locations and release investigations are planned for the summer of 2000 (work plans for this period are presently unavailable). (CH2-OH 2000)

Restoration activities at the site, totaling \$500,000 and planned for fiscal years 1999-2002, include the removal of USTs and associated fuel contamination. As indicated above, this work is currently in progress. The FAA is the lead agency for restoration activities at the site. (MOU 1999)

The site is located approximately 200 feet from Tamgas Harbor, an important subsistence gathering and recreation area for members of the community. Surface water at the site likely flows via overland flow south to Tamgas Harbor. The FAA Housing is utilized for residential and business use: 18 people live at the site and four workers regularly occupy the site (Mandan 2000). The site is accessible; the town of Metlakatla is located approximately 5 miles north of the site.

3.53B FAA Housing Area - Lead and Asbestos (Site 53B)

Because the buildings were constructed during WW II, lead-based paint and ACM were likely used during building construction. Therefore, restoration activities at the site include the removal of

ACM and lead-based paint. Restoration activities are estimated at \$2,550,000 and are scheduled for fiscal years 2001-2003. The BIA is the lead agency for restoration activities at the site. (MOU 1999)

The site is located approximately 200 feet from Tamgas Harbor, an important subsistence gathering and recreation area for members of the community. Surface water at the site likely flows via overland flow south to Tamgas Harbor. The FAA Housing is utilized for residential and business use: 18 people live at the site and four workers regularly occupy the site (Mandan 2000). The site is accessible; the town of Metlakatla is located approximately 5 miles north of the site.

3.54 Public School (Site 54)

Built originally as a state school, the building completely burned to the ground (MOU 1999). Remains at the site include a concrete building foundation, a concrete boiler room containing an insulated boiler and piping, metal structural steel, and metal building debris (Figure 3-24). A UST that supplied fuel to the boiler is located on the south side of the building. Stained soil, approximately 15 by 30 feet in area, was observed, and a strong diesel odor was noted. A soil sample was collected near the UST fill pipe. The sample contained GRO (620 mg/kg), DRO (90,000 mg/kg), RRO (170 mg/kg), toluene (190 µg/kg), ethylbenzene (2,100 µg/kg), xylene (12,000 µg/kg), and lead (39 mg/kg). (REI 1998b)

REI contracted asbestos abatement work at various sites on Annette Island in 1999, including the Public School. The following ACM was removed from the site: floor tiles, roofing tiles, piping network insulation, and boiler and water tank insulation. All ACM was removed from the site, except for a large concrete chimney lined with asbestos pipe. The MIC is evaluating possible options for chimney reuse or disposal. (REI 1999)

In 1999, the FAA decommissioned and removed the 2,000-gallon heating oil UST from the Public School. A total volume of 33 cubic yards of soil was excavated during the tank removal, based on soil field screening results. MIC cleanup levels for DRO were not attained during the UST removal; a release investigation is scheduled for the summer of 2000 (work plans for this period are presently unavailable). (CH2-OH 2000)

Restoration activities at the site, estimated at \$320,000 and planned for fiscal year 2005, include the removal of building debris, lead-contaminated soil, and POL-contaminated soil. As indicated above, site restoration activities are in progress. The BIA is the lead agency for restoration activities at the site. (MOU 1999)

The site is located approximately 1,000 feet from Tamgas Harbor, an important subsistence gathering and recreation area for members of the community. Surface water at the site is likely confined to local isolated wetlands because overland flow south to Tamgas Harbor is altered by the road. The site is accessible; the town of Metlakatla is located approximately 5 miles north of the site.

3.55 FAA Service Building (Site 55)

The FAA Service Building was used by the FAA as a garage facility (Figure 3-22). The garage contained a trench, hydraulic floor hoist, and associated piping. Remains at the site consist of a concrete foundation and building debris. A UST was located on the west side of the former service building; a soil sample was collected near the UST fill pipe. The soil sample contained DRO (1,600 mg/kg), RRO (20 mg/kg), and lead (424 mg/kg). (REI 1998b)

In 1999, the FAA decommissioned and removed a 500-gallon heating oil UST from the FAA Service Building site. A total of 18 cubic yards of soil was removed during the UST excavation based on soil field screening results. MIC soil cleanup levels were attained during the UST excavation; however, a release investigation will still be performed in 2000 based on the observation of a fuel sheen on groundwater in the excavation. (CH2-OH 2000)

Restoration activities at the site, estimated at \$100,000 and scheduled for fiscal years 1999-2005, include the removal of fuel tanks and associated POL-contaminated soil. As indicated above, site restoration activities are in progress. The FAA is the lead agency for restoration activities at the site. (MOU 1999)

The site is located approximately 1,000 feet from Tamgas Harbor, an important subsistence gathering and recreation area for members of the community. Surface water at the site is likely confined to local isolated wetlands because overland flow north or south to Tamgas Harbor is altered by roads. The site is accessible; the town of Metlakatla is located approximately 5 miles north of the site.

3.56A PNA/WA Residential Building - Three 80,000-Gallon ASTs (Site 56A)

The PNA/WA Residential Building was an approximately 50-by-100-foot, two-story, wood and cementitious exterior structure (Figure 3-25). The building was originally built for employees of PNA/WA, but is currently occupied by MIC members. Several medium-sized rectangular buildings are located southwest of the residential building and are used for materials storage or livestock pens. Six out-of-service ASTs, wood debris from a sawmill operation, and a large fireplace are located south of the building. A four-part composite soil sample was collected around a garage that was believed to formerly

house an AST that provided heating fuel for the residential building. The soil sample contained DRO (930 mg/kg), RRO (320 mg/kg), toluene (200 µg/kg), and lead (460 mg/kg). Reportedly, a sheen can be seen on surface water seeping from several locations along the road west of the residential building. A soil sample was collected from stained soil in this area and contained DRO (15 mg/kg), RRO (85 mg/kg), 2-butanone (480 µg/kg), barium (22.1 mg/kg), chromium (66 mg/kg), and lead (15 mg/kg). (REI 1998b)

A removal and possible contaminant release investigation related to three 80,000-gallon wood stave ASTs located on site to support former airfield operations was planned for completion during the USAED, Alaska, Removal Action/RI in 1999. However, this work was not completed during the 1999 field season and was identified for completion during the 2000 field season. (JEG 2000b)

Restoration activities, totaling \$1,500,000 and planned for fiscal years 1999-2004, include the remediation of POL-contaminated soil at the site. The C3 Plan indicates that SHPO and access issues exist at the site. The FUDS Program associated with USAED, Alaska, is the lead agency for restoration activities at the site. (MOU 1999)

The site is located approximately 1,000 feet from Tamgas Harbor, an important subsistence gathering and recreation area for members of the community. Surface water at the site is likely confined to local isolated wetlands because overland flow north or south to Tamgas Harbor is altered by roads. The site is currently used by MIC members as residences and houses nine people (Mandan 2000). The site is accessible; the town of Metlakatla is located approximately 5 miles north of the site.

3.56B PNA/WA Residential Building - Lead and Asbestos (Site 56B)

Because of the time period during which the building was constructed, lead-based paint and ACM were likely used during building construction. Restoration activities, estimated at \$30,000 and scheduled for fiscal year 2000, include removing lead-based paint and ACM from the site. The BIA is the lead agency for restoration activities at the site. (MOU 1999)

The site is located approximately 1,000 feet from Tamgas Harbor, an important subsistence gathering and recreation area for members of the community. Surface water at the site is likely confined to local isolated wetlands because overland flow north or south to Tamgas Harbor is altered by roads. The site is accessible; the town of Metlakatla is located approximately 5 miles north of the site.

3.57 Administration Building (Site 57)

The Administration Building was owned by the NWB and leased by the FAA. The building was also reportedly used by the USCG. The building has since burned and collapsed. Lead has been

identified as a contaminant of concern, possibly from suspected lead-based paint used at the site. Restoration activities at the site, estimated at \$15,000 and scheduled for fiscal years 2002-2003, include the investigation of lead-contaminated soil and the removal of the collapsed building; the building foundation will remain on site. The FAA is the lead agency for restoration activities at the site. (MOU 1999)

The site is adjacent to Tamgas Harbor, an important subsistence gathering and recreation area for members of the community. Surface water at the site likely flows via overland flow southeast to Tamgas Harbor. Deer Creek, a small creek with a volume of 2 cfs, is located south of the site (USFWS 1983). The stream supports pink and coho salmon (USFWS 1983). The site is accessible; the town of Metlakatla is located approximately 5 miles north of the site.

3.58 DoD Utility Officer Buildings - Quarter Master and Utility Buildings (Site 58)

The utility buildings provided aircraft and other maintenance functions to the airfield operations. An Army drawing (1943a) indicates that the following buildings existed at the site: paint shop, carpenter shop, blacksmith shop, sheetmetal shop, plumbing shop, and office, along with a 4-inch water pipeline that supplied the utility buildings and the Air Warning Center Garrison (Site 59) to the south. Little is known about the operations at the utility buildings; however, numerous contaminants were likely utilized during site operations based on the type of facilities present at the site. Restoration activities at the site, estimated at \$15,000 and scheduled for fiscal years 2000-2002, include the investigation and remediation of potential POL-, solvent-, and lead-based paint-contaminated soil. Also, the buildings that existed on site are eligible for demolition. The FUDS Program associated with USAED, Alaska, is the lead agency for restoration activities at the site. (MOU 1999)

The site is adjacent to Tamgas Harbor, an important subsistence gathering and recreation area for members of the community. Surface water at the site likely flows via overland flow east to Tamgas Harbor. Deer Creek, a small creek with a volume of 2 cfs, is located north of the site (USFWS 1983). The stream supports pink and coho salmon (USFWS 1983). The site is accessible; the town of Metlakatla is located approximately 5 miles north of the site.

3.59 Air Warning Center Garrison (Site 59)

The site consisted of the Air Warning System Filter Center and support facilities for the personnel that operated the filter center, including living quarters, mess hall, recreation hall, latrine, storehouses, and possibly a powerhouse (Figure 3-26). The garrison consisted of approximately

15 buildings (Army 1943a). Remains at the site consist of wood foundations, wood pilings, wood antenna poles, stacked metal framework, wood boardwalk, and miscellaneous wood and metal debris. A deteriorated wood stave AST is also present at the site. A soil sample was collected at the north end of the AST remains; the sample contained DRO (9,700 mg/kg), RRO (2,100 mg/kg), benzo(b)fluoranthene (690 mg/kg), benzo(k)fluoranthene (890 mg/kg), barium (33 mg/kg), and lead (20 mg/kg). (REI 1998b)

PCBs are a contaminant of potential concern because of a suspected powerhouse on site. Restoration activities at the site, totaling \$250,000 and planned for fiscal years 2002-2004, include investigation and removal of POL-contaminated soil associated with fuel tanks at the site. Also, the buildings that existed on site are eligible for demolition. The C3 Plan indicates that SHPO issues exist on site. The FUDS Program associated with USAED, Alaska, is the lead agency for restoration activities at the site. (MOU 1999)

The site is adjacent to Tamgas Harbor, an important subsistence gathering and recreation area for members of the community. Surface water at the site likely flows via overland flow east to Tamgas Harbor. A small, unnamed creek flows through the north portion of the site and discharges to Tamgas Harbor. The septic system outfall discharges directly to Tamgas Harbor; therefore, contaminants in the septic system have a direct migration route to the harbor. The site is accessible; the town of Metlakatla is located approximately 5 miles north of the site.

3.60 Receiver Station (Site 60)

The Receiver Station was owned and operated by the FAA for over 25 years. The remains at the receiver station consist of metal hut framework, a generator mount, and an 80-foot wood antenna pole. Building materials are believed to contain lead-based paint. Restoration activities at the site, estimated at \$15,000 and planned for fiscal years 2005-2006, include the removal of lead-based painted metal and the collapsed building. The C3 Plan indicates that SHPO issues exist at the site. The FAA is the lead agency for restoration activities at the site. (REI 1998a; MOU 1999)

Surface water is not expected to be a significant migration pathway at the site. The site is accessible; the town of Metlakatla is located approximately 5 miles north of the site.

3.61 71st Garrison (Site 61)

The 71st Garrison consisted of three camp areas that housed a Canadian Light Anti-aircraft Battalion; two of the camp areas were used as living quarters and the third contained Bren guns. Remains at the site include an intact quonset hut, metal framework, metal siding/roofing, wood

foundations, wood debris, and wood pilings. Reportedly, the FAA buried 55-gallon drums of PCB-containing transformer oil at the site but a magnetometer survey of the site failed to locate the 55-gallon drums or any other buried metal material. Restoration activities at the site, estimated at \$250,000 and scheduled for fiscal years 2003-2004, include the removal of drums or any other hazardous material found at the site. The intact quonset hut may be salvaged. The FAA is the lead agency for restoration activities at the site. (REI 1998b; MOU 1999)

Surface water is not expected to be a significant migration pathway at the site. The site is accessible; the town of Metlakatla is located approximately 5 miles north of the site.

3.62 Power House (Site 62)

Remains at the Power House consist of a 30-by-40-foot wood-framed structure with a concrete foundation that accommodated five to six electrical generators (Figure 3-27). Lead-based paint may have been used during building construction. A concrete vault is located east of the building and a concrete pad is located north of the building. Two concrete saddles are located west of the building and were assumed to originally support an AST. Piping, stained soil, and a strong petroleum odor were present on the east side of the concrete saddles. A soil sample collected in this location contained DRO (280,000 mg/kg), RRO (1,700 mg/kg), and lead (330 mg/kg). (REI 1998b)

The Power House was included in a removal action performed by the FAA in 1992. Seven PCB-containing transformers were removed from the power house and disposed of at an approved facility (E & E 1993).

Restoration activities at the site, estimated at \$500,000 and planned for fiscal years 1999-2005, include removal of contaminated soil from the fuel storage area. The building foundation will remain on site. The potential for PCB contamination on site exists because of the operation of electrical equipment at the site; possible PCB contamination does not appear to be addressed in the current site restoration activities. The C3 Plan indicates that SHPO issues exist at the site. The FAA is the lead agency for restoration activities at the site. (MOU 1999)

Surface water is not expected to be a significant migration pathway at the site. The site is accessible; the town of Metlakatla is located approximately 5.5 miles north of the site.

3.63 Remote Receiver Station (Site 63)

The FAA operated the Remote Receiver Station for over 25 years, but FAA has not leased the facility since 1989. The Remote Receiver Station consisted of a small concrete block building and a

20-foot tower. A downed 60-foot tower is also located at the site. Electrical equipment and lead power lines are reportedly present in the building and scattered around the site. An oily sheen has been observed on standing water 50 feet northeast of the concrete building; two empty 55-gallon drums and a rusted transformer were present in the water. (E & E 1992; REI 1998a)

USAED, Alaska, performed removal actions at the "remote trailer" in 1997; the site names do not match but it is possible that "remote trailer" refers to the Remote Receiver Station. Forty small capacitors, one transformer, and one rectifier were removed from the remote trailer in April 1997, and in May 1997, 96 small capacitors were removed from the remote trailer. (OHM 1998)

Restoration activities at the site, estimated at \$150,000 and planned for fiscal years 1999-2001, include the removal of lead-based paint, asbestos, communication towers, and lead communication cables. Possible PCB contamination does not appear to be addressed in the current site restoration efforts. The C3 Plan indicates that SHPO issues exist at the site. The FAA is the lead agency for restoration activities at the site. (MOU 1999)

Surface water is not expected to be a significant migration pathway at the site. The site is accessible; the town of Metlakatla is located approximately 5.5 miles north of the site.

3.64 Runway Taxiways and Parking Circles (Site 64)

Aircraft taxiways and parking circles were constructed on both sides of Runways A and B (Site 33A). Most parking circles contain wood debris from former pilot huts. Surface gravels have been excavated from some of the parking circles. There are a number of circles north of Runway A along the Metlakatla to Airport Road that may have served as parking circles during airfield operation (Figure 3-28). Two ASTs and numerous vehicles have been abandoned in the southeast parking circle on Runway B; soil staining and petroleum odor were noted in this area. At least seven different parking circles contain 55-gallon asphalt drums discarded from the runway paving operation. The drums are in various states of decay and asphalt is slowly migrating toward the surrounding muskeg wetlands. Two samples of asphalt material were collected at separate drum dumps: one from the east-central portion of Runway A and another from the east-central portion of Runway B (also known as Revetment H-40 in Former USCG Storage Area [Site 33B]). The Runway A drum dump sample contained DRO (29,000 mg/kg) and RRO (97,000 mg/kg). The Runway B drum dump sample contained GRO (7,100 mg/kg), DRO (4,300 mg/kg), and RRO (12,000 mg/kg). (REI 1998b)

Three parking circle drum dumps were included in a removal action performed by USAED, Alaska, in 1999. A total of three hundred and two 55-gallon drums were removed from the drum dump at

the intersection of the Metlakatla to Airport Road and the Canoe Cove Road; 195 drums were classified as clean drums and 107 drums were categorized as waste drums. Soil, groundwater, surface water, and sediment samples were collected in the drum dump area after the removal action. Analytical results indicate that hydrocarbons are present in all sample media; however, hydrocarbon presence appears primarily to be a result of biogenic material with several unidentified compound peaks. Various metals were detected in the samples, but the metals' concentrations appear to be at background levels. (JEG 2000c)

A total of one hundred and forty-two 55-gallon drums were removed from the drum dump in the east-central portion of Runway B (i.e., Revetment H-40 of Former USCG Storage Area [Site 33B]), including 8 clean drums and 134 waste drums that were empty or contained varying amounts of asphalt. Some hardened patches of asphalt remain along the edge of the parking revetment and in the adjacent wetland. After drum removal at Revetment H-40, nine soil samples, three sediment samples, three surface water samples, and one groundwater sample were collected to identify possible contaminant releases from the former 55-gallon drums. DRO and RRO were detected in each media throughout the former drum dump area at concentrations exceeding risk-based screening criteria. However, the DRO and RRO chromatograms indicate that the soil and groundwater organics were primarily biogenic material while the sediment and surface water organics were a combination of biogenic material and unidentified petroleum compounds. Chromium, arsenic, and lead were commonly detected at concentrations exceeding risk-based screening criteria in different site media. Elevated lead concentrations are likely due to local utilization of the area as an informal firing range. Numerous SVOCs were also detected above risk-based screening criteria in different site media. The RI concluded that soil and groundwater in the area do not appear to be impacted with POL, but surface water and sediment are impacted with POL; however, no recommendations are provided to address the POL contamination. In order to determine the significance of metals detections above risk-based screening criteria, the RI recommended a background metals study for groundwater and sediment. (JEG 2000c)

Seven waste drums were removed from another parking circle in the east-central portion of Runway B (i.e., Revetment H-38 in Former USCG Storage Area [Site 33B]). After drum removal at Revetment H-38, two soil samples, three sediment samples, and one surface water sample were collected to identify possible contaminant releases from the former 55-gallon drums. DRO and RRO were detected in soil and sediment throughout the former drum dump area at concentrations exceeding risk-based screening criteria. Chromatograms indicate the organics in site media are primarily jet fuel or diesel fuel, with small amounts of biogenic material. Lead and arsenic were detected at concentrations exceeding

risk-based screening criteria in on-site soil, while lead and barium were detected in surface water at concentrations exceeding risk-based screening criteria. Elevated lead concentrations are likely due to local utilization of the area as an informal firing range. In order to determine the significance of detections of metals above risk-based screening criteria, the RI recommended a background metals study for surface water. (JEG 2000c)

Restoration activities at the site, estimated at \$150,000 and scheduled for fiscal years 2000-2003, include removal of drums and spills associated with the parking circles. As described above, this work appears to be in progress. The FAA is the lead agency for restoration activities at the site. (MOU 1999)

Surface water is not expected to be a significant migration pathway at the site. The site is accessible; the town of Metlakatla is located approximately 5 miles north of the site.

3.65 Runway Fortifications (Site 65)

The Runway Fortifications, located on the southwest side of Runway A and the southeast side of Runway B, were used for training exercises. The fortifications consisted of V- or W-shaped wood-lined trenches, concrete pillars, raised piping, earthen bunkers, barbed wire fences, and enclosures. A lead-shielded conduit with several copper wire bundles was discovered at some of the fortifications; apparently, a control cable connected the various runway parking circles. A soil sample was collected from the main runway fortification area on the southwest side of Runway A; the sample contained RRO (200 mg/kg), barium (56.8 mg/kg), chromium (19 mg/kg), and lead (15 mg/kg). (REI 1998b)

Restoration activities at the site, estimated at \$150,000 and scheduled for fiscal year 2007, include filling trenches and removing barbed wire; however, project eligibility issues have not yet been resolved. The C3 Plan indicates that SHPO issues exist at the site. The DoD is the lead agency for restoration activities at the site. (MOU 1999)

Surface water is not expected to be a significant migration pathway at the site. An isolated lake is adjacent to the site, but the lake is not known to support fish populations. The site is accessible; the town of Metlakatla is located approximately 5 miles north of the site.

3.66 High Intensity Light (Site 66)

The High Intensity Light was used as a navigation aid for the airfield. Remains consist of a small light fixture and electrical conduit. Restoration activities at the site, estimated at \$15,000 and scheduled for fiscal year 2007, include removal of the light fixtures, including associated asbestos wiring, ballasts,

and bulbs. The C3 Plan indicates that SHPO issues exist at the site. The FAA is the lead agency for restoration efforts at the site. (REI 1998a; MOU 1999)

The area is scattered with wetlands; surface water flow in the area is generally west. A lake is located adjacent to the site; the lake has a drainage area of 131 acres and a surface area of 4.8 acres (USFWS 1983). The lake supports coho salmon but it is unclear how the population was established because the lake outlet stream is blocked before it reaches the ocean (USFWS 1983). The site is accessible; the town of Metlakatla is located approximately 6 miles north of the site.

3.67 Weather Bureau Station - near Hangar (Site 67)

The weather station consists of two buildings: a 20-by-30-foot, single story, wood-framed office building and a 20-by-20-foot, domed, wood-framed weather balloon release building (Figure 3-29). An instrument gauging area is located between the two buildings. On the west side of the office building is a small AST; a soil sample was collected at this location and contained only lead (169 mg/kg). Approximately twenty-five 55-gallon drums are located in an embankment north of the weather station; the drum contents appear to be asphalt and hence, are not related to weather station operation. A soil sample was collected from the embankment below the 55-gallon drums and found to contain DRO (9,400 mg/kg) and RRO (35,000 mg/kg). (REI 1998b)

Restoration activities at the site, estimated at \$10,000 and planned for fiscal years 2005-2006, include the removal of buried drums near the site. The FAA is the lead agency for restoration efforts at the site. (MOU 1999)

Surface water movement via overland flow is likely limited at the site because of man-made obstructions such as roadways and buildings. The site is an active facility operated by automated equipment; therefore, workers do not regularly occupy the site. Periodically, workers visit the site to inspect and maintain the automated equipment. The site is accessible; the town of Metlakatla is located approximately 6 miles north of the site.

3.68 USCG Water Treatment Plant (Site 68)

The site name suggests that the facility was a drinking water treatment plant; however, records indicate that the facility was actually a sewage treatment plant serving the nearby USCG Quarters (Figure 3-29). A transformer pad is believed to be within 10 feet of the south side of the building, and apparently, a PCB-containing transformer is still located in the area. (CH2 2000; MOU 1999)

Remains at the site consist of a wood-frame structure, empty aluminum vats, and a control panel room (REI 1998a). The transformer reportedly present on site could not be located during a site visit in 1999. A paint chip sample was collected during the site visit and determined to contain lead (21,000 mg/kg). (CH2 2000)

Restoration efforts at the site, estimated at \$60,000 and scheduled for fiscal years 2001-2003, include removing PCB-containing oil, asbestos, and any other hazards encountered. The USCG is the lead agency for restoration activities at the site. (MOU 1999)

The area is scattered with wetlands; surface water flow in the area is generally north and west. A lake is located approximately 250 feet north of the site; the lake has a drainage area of 131 acres and a surface area of 4.8 acres (USFWS 1983). The lake supports coho salmon but it is unclear how the population was established because the lake outlet stream is blocked before it reaches the ocean (USFWS 1983). The site is accessible; the town of Metlakatla is located approximately 6 miles north of the site.

3.69A USCG Quarters - POL (Site 69A)

The USCG Quarters was a two-story, T-shaped building divided into individual living units equipped with shared bathrooms (Figure 3-29). The building has a boiler room that contains an insulated boiler, water tank and associated piping, and cementitious exterior siding. A small metal building, apparently a waste paper incinerator, was located near the USCG quarters. Four, partially-filled, 55-gallon drums were located inside the metal building. An AST, located northeast of the dining/kitchen area, fueled the building boiler room. An X-ray clinic and a UST were reportedly located at the USCG quarters; however, no radiological contamination or evidence of a UST could be found. (REI 1998b)

Two soil samples were collected during a PA conducted by the USCG in 1999 and analyzed for GRO, DRO, RRO, and BTEX. One sample was collected at the former AST location and the other was collected behind the former boiler room. The AST soil sample contained DRO (170 mg/kg) and RRO (13 mg/kg). The boiler room sample contained DRO (7.3 mg/kg) and RRO (13 mg/kg). (CH2 2000)

Restoration activities at the site, estimated at \$100,000 and scheduled for fiscal years 2002-2003, include the removal of fuel spills from the former AST. The USCG is the lead agency for restoration efforts at the site. (MOU 1999)

The area is scattered with wetlands; surface water flow in the area is generally west. A lake is located approximately 500 feet north of the site; the lake has a drainage area of 131 acres and a surface area of 4.8 acres. The lake supports coho salmon but it is unclear how the population was established because the lake outlet stream is blocked before it reaches the ocean. Another lake, with a drainage area of 171 acres and a surface area of 7.2 acres, is located approximately 250 feet south of the site. The lake does not support any sport fish species. (USFWS 1983) The site is accessible; the town of Metlakatla is located approximately 6 miles north of the site.

3.69B USCG Quarters - Structure (Site 69B)

The building is known to contain lead-based paint and damaged ACM; access to the area has been restricted because of the asbestos hazard. A PCB-containing transformer (now with a "No PCBs" label affixed) was located near the southwest corner of the building. (CH2 2000)

Restoration activities at the site, estimated at \$830,000 and scheduled for fiscal year 2001, include removal of the building and associated debris, along with construction of a new facility at this location. Specific design and purpose of the new structure has not been identified. The BIA is the lead agency for restoration activities at the site. (MOU 1999)

The area is scattered with wetlands; surface water flow in the area is generally west. A lake is located approximately 500 feet north of the site; the lake has a drainage area of 131 acres and a surface area of 4.8 acres. The lake supports coho salmon but it is unclear how the population was established because the lake outlet stream is blocked before it reaches the ocean. Another lake, with a drainage area of 171 acres and a surface area of 7.2 acres, is located approximately 250 feet south of the site. The lake does not support any sport fish species. (USFWS 1983) The site is accessible; the town of Metlakatla is located approximately 6 miles north of the site.

3.70 Beacon Tower (Site 70)

The Beacon Tower is an approximate 50 foot structure to the northwest of the hangar facility (Site 75). Restoration efforts at the site, estimated at \$15,000 and scheduled for fiscal years 2000-2001, consist of demolishing the tower structure. The C3 Plan indicates that SHPO issues exist at the site. The FAA is the lead agency for restoration activities at the site. (REI 1998a; MOU 1999)

The area is scattered with wetlands; surface water flow in the area is generally west. A lake is located approximately 250 feet east of the site; the lake has a drainage area of 131 acres and a surface area of 4.8 acres (USFWS 1983). The lake supports coho salmon but it is unclear how the population

was established because the lake outlet stream is blocked before it reaches the ocean (USFWS 1983). The site is accessible; the town of Metlakatla is located approximately 6 miles north of the site.

3.71A USCG Garage - Asbestos (Site 71A)

The USCG Garage is a 40-by-100-foot metal building that was primarily used by the USCG as an office building (Figure 3-29). The building is known to contain ACM. Restoration activities at this site, estimated at \$50,000 and planned for fiscal years 2000-2001, include removal of all asbestos associated with the building. The USCG is the lead agency for restoration efforts at the site. (MOU 1999)

Surface water movement via overland flow is likely limited at the site because of man-made obstructions such as roadways and buildings; however, a surface drain located near the southwest corner of the building is believed to discharge to the lake west of the site. This lake has a drainage area of 171 acres and a surface area of 7.2 acres (USFWS 1983). The lake does not support any sport fish species (USFWS 1983).

The site is an active facility used in conjunction with the Metlakatla Forest Products sawmill located in the Hangar Facility (Site 75). Currently, five workers regularly occupy the site, but when the sawmill is fully operational, 22 workers regularly occupy the site (Mandan 2000). The site is accessible; the town of Metlakatla is located approximately 6 miles north of the site.

3.71B USCG Garage - Other (Site 71B)

The USCG Garage is a 40-by-100-foot metal building that was primarily used by the USCG as an office building (Figure 3-29). The facility has recently been used by the MIC sawmill operation to store spare equipment parts, barrels of lubricant, and other petroleum-related products used to perform minor maintenance on sawmill equipment and vehicles. A small equipment storage yard is located northwest of the garage building. A 6,000-gallon AST is located on the northeast side of the garage; this AST is currently in use. A 1,200-gallon AST on concrete blocks is located in the equipment storage yard; the caps to this AST are missing. A third AST has been abandoned in the trees east of the equipment storage yard. A soil sample was collected north of the USCG garage in an area where the tarmac runoff appears to accumulate; the sample contained DRO (2,400 mg/kg), RRO (6,300 mg/kg), and lead (178 mg/kg). (REI 1998b)

In 1992, the FAA performed a removal action at the USCG Garage. Seven PCB-containing rectifiers and approximately 0.33 cubic yard of stained soil was removed from behind the garage building and disposed of at an approved facility. (E & E 1993)

The USCG Garage facility was included in a BSA performed by the EPA in 1998. Two sets of co-located surface and subsurface soil samples were collected from the warehouse building and maintenance shop area and analyzed for VOCs, SVOCs, pesticides, PCBs, GRO/BTEX, DRO, RRO, and TAL metals. Soil samples were located at the north and west corners of the building, respectively. PCBs (Aroclor 1260) were detected in both surface soil samples at 270 µg/kg and 22,000 µg/kg, respectively, both of which exceed the EPA, Region 9, Residential Soil PRG. DRO was detected in the surface soil sample from the west corner at a concentration of 230 mg/kg, which is equal to State of Alaska Soil Cleanup Levels. Benzo(a)pyrene, commonly associated with POL compounds, was detected in the surface soil sample from the north corner at an estimated concentration of 113 µg/kg, which exceeds the EPA, Region 9, Residential Soil PRG. Chromium and nickel were detected in both surface soil samples at concentrations at least three times the background concentration and above State of Alaska Soil Cleanup Levels. DRO was detected in the subsurface soil sample from the north corner at a concentration of 280 mg/kg, which exceeds State of Alaska Soil Cleanup Levels. Chromium was detected in both subsurface soil samples and nickel was detected in the subsurface soil sample from the north corner at concentrations at least three times the background concentration and above State of Alaska Soil Cleanup Levels. No other contaminants were detected at concentrations above an applicable comparison standard in the surface or subsurface soil. (E & E 1999)

The USCG performed a PA at the USCG Garage in 1999. The building was divided into halves based on usage; one half was utilized as a welding shop, and the other half remained an equipment storage and maintenance area for the sawmill. A paint chip sample was collected from inside the building and analyzed for lead; analytical results indicate a lead concentration of 490 mg/kg. (CH2 2000)

Restoration activities at the site, estimated at \$70,000 and planned for fiscal year 2003, include removal of barrels and asbestos from inside the building, along with the addition of secondary containment to the AST currently in use. The BIA is the lead agency for restoration activities at the site. (MOU 1999)

Surface water movement via overland flow is likely limited at the site because of man-made obstructions such as roadways and buildings; however, a surface drain located near the southwest corner of the building is believed to discharge to the lake west of the site. This lake has a drainage area of 171 acres and a surface area of 7.2 acres (USFWS 1983). The lake does not support any sport fish species (USFWS 1983). The site is an active facility used in conjunction with the Metlakatla Forest Products sawmill located in the Hangar Facility (Site 75). Currently, five workers regularly occupy the

site, but when the sawmill is fully operational, 22 workers regularly occupy the site (Mandan 2000). The site is accessible; the town of Metlakatla is located approximately 6 miles north of the site.

3.72 Hangar Boiler Building (Site 72)

The boiler building is approximately 25 by 30 feet and 18 feet high (Figure 3-29). The building contains two large insulated boilers and associated piping. The door and interior walls of the building have been determined to contain lead-based paint. An inactive PCB-containing electrical transformer and concrete pad were located approximately 20 feet northwest of the boiler building. In 1997, the transformer and pad were removed from the site and shipped for off-site disposal. After the removal action, 11 soil samples were collected in the area; PCBs were detected in four of the 11 samples with a maximum concentration of 0.7 mg/kg in the sample collected 6 feet north of the transformer at a depth of 1.5 feet. (CH2 2000)

The Hangar Boiler Building was included in a BSA performed by the EPA in 1998. Five sets of co-located surface and subsurface soil samples were collected from the Hangar Boiler Building area: one on each side of the building and the fifth to the northwest of the building near an abandoned transformer. All samples were analyzed for VOCs, SVOCs, pesticides, PCBs, GRO/BTEX, DRO, RRO, and TAL metals. PCBs (Aroclor 1260) were detected in four of the five surface soil samples at concentrations exceeding the EPA, Region 9, Residential Soil PRG, and ranging from 220 µg/kg to 12,000 µg/kg. Benzo(a)pyrene, an SVOC associated with petroleum compounds, was detected in one surface soil sample at an estimated concentration of 94.5 µg/kg, which exceeds the EPA, Region 9, Residential Soil PRG. DRO was detected in two surface soil samples at 7,200 mg/kg and 21,000 mg/kg, respectively, which exceed State of Alaska Soil Cleanup Levels. TAL metals detected at concentrations at least three times the background surface soil concentration and above a comparison standard consist of arsenic (one sample), chromium (two samples), mercury (one sample), and nickel (all five samples). PCBs (Aroclor 1260) were detected in subsurface soil at 200 µg/kg, which is equal to the EPA, Region 9, Residential Soil PRG. DRO was detected in three of the five subsurface soil samples, ranging from 530 mg/kg to 15,000 mg/kg, which exceed State of Alaska Soil Cleanup Levels. TAL metals detected at concentrations at least three times the background concentration and above a comparison standard consist of arsenic (one sample), chromium (two samples), and nickel (two samples). No other contaminants were detected at concentrations above the applicable comparison standards in the surface or subsurface soil. (E & E 1999)

REI contracted asbestos abatement work at various sites on Annette Island in 1999, including the Hangar Boiler Building. The following ACM was removed from the site: pipe insulation, pipe fitting insulation, boiler insulation, and boiler door gaskets. All ACM was removed from the building; however, because of the building's designation as a historical site, all of the piping and equipment was left in place. (REI 1999)

Restoration activities at the site are estimated at \$100,000 and are scheduled for fiscal year 1999 and fiscal years 2003-2005. Site restoration includes the removal of PCB- and fuel-contaminated soil. The C3 Plan also indicated that asbestos removal by DoD would occur in 1999; however, as reported above, this work appears to have been completed. The USCG is the lead agency for restoration efforts at the site. (MOU 1999)

Surface water movement via overland flow is generally toward the west. A lake, with a drainage area of 171 acres and a surface area of 7.2 acres, is located approximately 150 feet west of the site (USFWS 1983). The lake does not support any sport fish species (USFWS 1983). The site is accessible; the town of Metlakatla is located approximately 6 miles north of the site.

3.73 Boiler Building AST (Site 73)

A 4,000-gallon AST that supplied fuel to the boilers is located south of the Hangar Boiler Building (Site 72; Figure 3-29; REI 1998b). The AST sits on concrete saddles and is surrounded by an 8-inch earthen berm (REI 1998b). During a Phase II Field Investigation performed by the USACE at the Annette Island Landing Field, a soil sample was collected from the east end of the boiler building AST (E & E 1990). Analytical results indicate the presence of TPH (141 ppm), lead (104 ppm), DDD (0.028 ppm; estimated [J]), DDT (0.119 ppm [J]), methane (2.705 ppm [J]), 1,1-dichloroethene (1.326 ppm [J]), benzene (0.138 ppm [J]), toluene (0.421 ppm [J]), and m,p-xylene (0.218 ppm [J]) (E & E 1990). During the LRI performed by REI, another soil sample was collected at the east end of the AST; the sample contained DRO (1,200 mg/kg) and lead (574 mg/kg; REI 1998b).

Restoration activities at the site, estimated at \$150,000 and scheduled for fiscal years 2001-2003, include the removal of the lead-based painted AST and associated PCB- and fuel-contaminated soil. The USCG is the lead agency for restoration efforts at the site. (MOU 1999)

Surface water movement via overland flow is generally toward the west. A lake, with a drainage area of 171 acres and a surface area of 7.2 acres, is located approximately 150 feet west of the site (USFWS 1983). The lake does not support any sport fish species (USFWS 1983). The site is accessible; the town of Metlakatla is located approximately 6 miles north of the site.

3.74 USCG ASTs (Site 74)

Two 10,000-gallon ASTs that are elevated and resting in metal framed cradles compose the USCG ASTs site (Figure 3-29). The ASTs stored fuel that was used during USCG flight operations (REI 1998b). During a Phase II Field Investigation performed by the USACE at the Annette Island Landing Field, a soil sample was collected from the east end of the USCG ASTs. Analytical results indicate the presence of TPH (17.2 ppm), lead (4,080 ppm), methane (2.776 ppm [J]), 1,1-dichloroethene (1.423 ppm [J]), benzene (0.126 ppm [J]), toluene (0.303 ppm [J]), m,p-xylene (0.190 ppm [J]), 1,2-dichlorobenzene (0.820 ppm [J]), and 1,3-dichlorobenzene (0.284 ppm [J]). (E & E 1990)

The FAA performed fuel recovery operations at multiple sites throughout the peninsula, including the USCG ASTs. Unused fuel from USCG ASTs was pumped into a portable tank. Actual volume of fuel recovered from the site is unknown because reported fuel recovery volumes are combined with other sites. The portable tank was shipped to Burlington Environmental, Inc. for energy recovery. (HLA 1996)

The USCG ASTs were included in the LRI performed by REI. A total of three soil samples were collected during the LRI: one below the AST dispenser, one below a leaking pipe, and a duplicate sample at the leaking pipe location. The AST dispenser sample location contained GRO (1,100 mg/kg), DRO (48,000 mg/kg), RRO (34 mg/kg), ethylbenzene (3,600 µg/kg), xylene (4,800 µg/kg), and lead (3,280 mg/kg). The maximum contaminant concentrations detected in the two leaking pipe soil samples are GRO (800 mg/kg), DRO (45,000 mg/kg), ethylbenzene (3,000 µg/kg), xylene (7,900 µg/kg), and lead (1,900 mg/kg). (REI 1998b)

Restoration activities at the site, estimated at \$50,000 and planned for fiscal years 2002-2004, include removal of the lead-based paint from the ASTs and associated PCB- and fuel-contaminated soil. Extent of PCB soil contamination at this site referred to in the C3 Plan is unknown. The USCG is the lead agency for restoration efforts at the site. (MOU 1999)

Surface water movement via overland flow is generally toward the west. A lake, with a drainage area of 171 acres and a surface area of 7.2 acres, is located approximately 150 feet west of the site (USFWS 1983). The lake does not support any sport fish species (USFWS 1983). The site is accessible; the town of Metlakatla is located approximately 6 miles north of the site.

3.75 Hangar (Site 75)

The Hangar is a 160-by-200-foot steel-frame structure with metal siding that sits 30 feet high (Figure 3-29). The northeast side of the hangar consists of sliding doors that expose the open bay that

comprises most of the building. The northern and southern 20 feet of the Hangar have first and second floor rooms that are configured as offices; these have been used by the FAA, USCG, United States Postal Service, NWB, and the MIC. The building was constructed with insulated steam heat pipes, cementitious interior walls and exterior siding, and vinyl flooring in the offices. (REI 1998b)

Many environmental investigations have occurred at the Hangar Facility. The following section serves as a synopsis of environmental investigations and should not be construed as a complete environmental history of the Hangar.

In 1988, the FAA performed a site visit at Annette Island to inspect facilities formerly or currently owned, leased, or operated by the FAA. The purpose of the site visit was to begin to establish responsibility for hazardous materials present on Annette Island. The FAA recognized that the site visit was not a complete inventory of all of the facilities and hazardous materials on Annette Island and stated that a detailed investigation of property records, lease agreements, property transfers, equipment inventories, materials testing, and interpretation of environmental regulations for applicability to an Indian reserve was required to establish responsibility for all hazardous materials present on the island. (Eberhardt 1988)

In October 1989, the USACE performed an inventory of materials and debris remaining at the landing field associated with the FAA Hangar Facility. The purpose of this investigation was to identify hazardous wastes and POL sources that may require remedial action. Samples were collected from suspected release locations, inactive electrical transformers stored in the Hangar Facility, miscellaneous 55-gallon drums, and building materials suspected to contain asbestos. Several pesticide/PCB compounds were detected in estimated concentrations ranging from 0.153 ppm to 75 ppm in transformer samples collected from various locations within the hangar. Xylene was detected in one drum sample at 11,688 ppm, and lead was detected in four 55-gallon drum samples at concentrations ranging from 0.0356 ppm to 499 ppm. (E & E 1990)

The FAA performed an investigation at the Annette Island FAA Station in 1990 to identify the location and size of suspected USTs at the station. None were discovered at the FAA Hangar Facility. (E & E 1994)

In August 1991, the FAA conducted an ECI at the Annette Island FAA Station, including the Hangar Facility. The primary purpose of the ECI was to conduct a PA/Site Inspection that evaluates suspected releases of Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)-regulated substances and to evaluate suspected POL discharges potentially subject to regulation pursuant to the Clean Water Act (CWA) or the Alaska Oil and Hazardous Substance Act. The

secondary purpose of the ECI was to identify other potential environmental compliance issues at the Annette Island FAA Station and to observe hazardous material management practices. ECI activities included literature searches, real estate searches, a site reconnaissance, a site inventory of toxic and hazardous materials, site sampling, sample analysis, and production of an ECI Report. Transformer oil samples collected at the Hangar Facility indicated the presence of PCBs up to a concentration of 100,000 mg/kg. Further action outlined in the compliance report included removal of inactive electrical equipment (PCB- and non-PCB-containing equipment) at the Hangar. (E & E 1992)

In 1992, the FAA performed a removal project at numerous sites throughout the peninsula, including the Hangar Facility. The FAA removed hazardous and nonhazardous wastes and materials, consisting of surplus or waste FAA-owned items designated for recycling or disposal and including those inventoried during earlier projects, from the Annette Island FAA Station. A preliminary station visit, performed to inventory and inspect the wastes, was conducted on September 10 and 11, 1992, and the removal action was conducted from October 15 to 17, 1992. The removed wastes included electrical transformers; electrical rectifiers; coaxial resistors; lead-acid batteries; and differing sizes of containers of various substances, including antifreeze, elastomer, paint, adhesive, lubricant, asbestos fiber cement, and asbestos roof coating. During this project, numerous PCB wipe samples were collected from floor stain locations at former electrical transformer oil spills in the Hangar building or from exterior walls at former transformer locations, with results up to 79,000 micrograms per 100 square centimeters ($\mu\text{g}/100\text{ cm}^2$). These samples indicated that PCB contamination was present in the concrete floor of the electrical transformer storage rooms and the exterior walls at the Hangar Facility. (E & E 1993)

In June 1994, the FAA conducted an ESI/IC project at the Annette Island FAA Station. The purpose of the ESI/IC was to further identify and control immediate releases regulated by the CERCLA and the CWA, and petroleum and hazardous substances regulated by ADEC's Hazardous Substance Act. IC activities included an attempt to clean up PCB contamination discovered during the 1991 ECI, including the use of PES-51 citrus-based solvent. ESI wipe samples collected at a former electrical transformer oil spill location in the Hangar storage rooms after floor cleaning indicated that PCBs were still present with a maximum concentration of 4,590 $\mu\text{g}/100\text{ cm}^2$. At the Hangar, floor cleaning was unsuccessful in removing PCB contamination, and further action was recommended to remediate this area. (E & E 1994)

In September 1994, the FAA conducted additional cleaning activities at the Hangar building electrical transformer storage area with the petroleum-based cleanser *CAPSUR* and collected wipe samples after cleaning the affected concrete floor. The wipe sample results indicated that the discharged

electrical transformer oil had penetrated the concrete pad beyond the uppermost surface and that the two previous cleaning efforts were unsuccessful in attaining the desired level of decontamination.

(E & E 1995a)

In 1995, the FAA conducted an RI to delineate the extent of PCB contamination and to evaluate effective options for remediation of PCB contamination in and around the Hangar building. Activities in this investigation included sampling, chemical analysis, interpretation of results, and remedial recommendations. The Remedial Action Plan states that PCB contamination had penetrated the concrete. Therefore, removal of up to 2 inches of concrete by chipping was recommended for some areas, while complete concrete and underlying soil removal was necessary to remove the PCB contamination at the former electrical transformer oil spill location. (E & E 1995c)

During the RI fieldwork, surplus hazardous and nonhazardous materials, mainly electrical transformers from the Hangar Facility, were removed from the Annette Island FAA Station for recycling and disposal (E & E 1995b).

USAED, Alaska, performed an ordnance explosive survey at numerous sites throughout the peninsula in 1996, including the hangar area. Elephant Shelters were formerly located in this area, but all have been removed from their original location. Six of the Elephant Shelters formerly located in the Hangar area were moved to the BIA Road Maintenance Center (Site 7) and utilized for storage. (USAED 1996)

The Hangar Facility was included in an LRI performed by REI. During the LRI, 13 out-of-service transformers were observed at the Hangar Facility: one on the grass near the northwest corner of the building and 12 on the concrete slab floor of a first-floor room on the south side of the building. All transformers had a "Non-PCBs" sticker prominently displayed. The building currently houses a sawmill operation, including a 6,000-gallon AST on the ground near the northwest corner of the building and a diesel-fueled sawdust burner stack near the southwest corner of the building. A sediment sample was collected from a storm drain sump located between the Hangar and the USCG Garage (Site 71); the storm drain is believed to drain to the lake west of the Hangar Facility. The following contaminants were detected in the sediment sample: PCBs (2,900 µg/kg), bis(2-ethylhexyl)phthalate (1,100 µg/kg), barium (41.2 mg/kg), cadmium (4.8 mg/kg), chromium (167 mg/kg), lead (289 mg/kg), mercury (0.27 mg/kg), DRO (550 mg/kg), and RRO (1,100 mg/kg). (REI 1998b)

From 1996 to 1998, USAED, Alaska, performed a removal action and RI at the Hangar Facility, primarily in first-floor rooms in the northwest corner of the building. A total of 212 linear feet of piping insulated with ACM was removed from the northwest rooms of the building. Chemical cleaning of

PCB-contaminated concrete, piping, and steel beams was performed as detailed in the Final Remedial Action Plan. Because of the ineffectiveness of chemical cleaning of the PCB-contaminated concrete, selected sections of concrete were removed for disposal, including a walkway adjacent to the north end of the building; a concrete pedestal in Hangar Room A; an elevated pad and underlying flooring in Hangar Room C; and selective scarification of flooring in Hangar Rooms A, B, and C. Scarification techniques were also used to mechanically clean 850 square feet of PCB-contaminated steel pipe and I-beams; in addition, 100 linear feet of electrical conduit and 65 linear feet of miscellaneous piping was removed for disposal. Other miscellaneous PCB- and non-PCB-contaminated materials were removed from the building, including 50 square feet of wall framing, 120 square feet of floor and ceiling tile, and a PCB-contaminated condenser. Approximately 109 cubic yards of PCB-contaminated soil was removed from the grass lot between the Hangar Facility and the USCG Garage (Site 71); excavation was directed by field screening and laboratory confirmation samples. (OHM 1998)

The Hangar Facility was included in the BSA performed by the EPA in 1998. Three sets of co-located surface and subsurface soil samples were collected from the Hangar building area and analyzed for pesticides, PCBs, and TAL metals. PCBs (Aroclor 1260) were detected in a surface soil sample collected from between the Hangar and warehouse buildings at 2,000 µg/kg, which exceeds the EPA, Region 9, Residential and Industrial Soil PRGs. Two pesticide compounds (DDD and DDT) were detected in a surface soil sample collected near the sawmill office trailer at concentrations exceeding the EPA, Region 9, Residential PRGs (3,300 µg/kg and 5,200 µg/kg, respectively). Chromium and nickel were detected in all surface and subsurface soil samples at concentrations at least three times the background concentration and exceeding the State of Alaska Soil Cleanup Levels. Pesticides and PCBs were not detected at concentrations above the comparison standards in subsurface soils at the Hangar building. No other contaminants were detected at concentrations above the comparison standards in the surface or subsurface soil. (E & E 1999)

Also as part of the BSA, a sediment sample was collected from the manhole near the west corner of the Hangar building adjacent to the warehouse building and analyzed for pesticides, PCBs, and TAL metals. This is the same sediment sample location described in the LRI performed by REI. PCBs (Aroclor 1254 and 1260) were detected at 60 µg/kg and 2,000 µg/kg, respectively. TAL metals detected at concentrations at least three times the background sediment concentration and above risk-based screening benchmarks consist of arsenic (14.4 mg/kg), cadmium (3.66 mg/kg), chromium (106 mg/kg), copper (58.4 mg/kg), lead (263 mg/kg), manganese (606 mg/kg), mercury (0.361 mg/kg),

nickel (462 mg/kg), and zinc (1,060 mg/kg). No other contaminants were detected at concentrations above a comparison standard in the sediment. (E & E 1999)

Also during the BSA field investigation, a groundwater excavation pit was dug to 8.5 feet bgs between the Hangar building and the warehouse building, and an unfiltered groundwater sample as well as a filtered groundwater sample were collected and analyzed for VOCs, SVOCs, pesticides, PCBs, TAL metals, GRO/BTEX, and DRO. PCBs (Aroclor 1260) were detected in the unfiltered groundwater sample at 4.1 micrograms per liter ($\mu\text{g/L}$). DRO was detected at a concentration of 110 mg/L in the unfiltered groundwater sample, which exceeds the State of Alaska Groundwater Cleanup Levels. Also, in the unfiltered groundwater sample, lead (172 $\mu\text{g/L}$), manganese (5,400 $\mu\text{g/L}$), chromium (186 $\mu\text{g/L}$), and nickel (1,480 $\mu\text{g/L}$) concentrations exceeded the applicable risk-based standards. No other contaminants were detected at concentrations above a comparison standard in the unfiltered groundwater sample. No contaminants were detected in the filtered groundwater sample at concentrations exceeding the comparison standards. (E & E 1999)

The Hangar Facility was included in a PA performed by the USCG in 1999. The building continued to house sawmill equipment; however, the sawmill was not operating. Several out-of-service transformers were observed stored in a first-floor room on the southern side of the building; all transformers were labeled "Non-PCBs." Four paint chip samples (one duplicate) were collected and analyzed for lead; in addition, two samples and the duplicate were also analyzed for PCBs. The sample collected from the vertical support beam on the north side of the building contained lead (37,000 mg/kg) and PCBs (Aroclor 1254; 0.7 mg/kg). The sample collected from an interior wall of a room on the north side of the building contained lead (6,200 mg/kg); PCB analysis was not requested for this sample. The sample collected from an interior wall in a room on the south side of the building contained lead (25,000 mg/kg) and PCBs (Aroclor 1254; 0.85 mg/kg); the duplicate sample collected from this location contained lead (49,000 mg/kg) and PCBs (Aroclor 1254; 1.0 mg/kg). (CH2 2000)

Restoration activities at the site are extensive, estimated at \$4,000,000 and scheduled for fiscal years 2002-2006, although some separately funded removal and remedial activities have already occurred at the site as described above. Future restoration plans include removal of lead-based paint, asbestos, a UST, and miscellaneous PCB and fuel spills in the hangar area. Ownership of the abandoned transformers in the Hangar Facility has yet to be resolved. The USCG is the lead agency for restoration activities at the site. (MOU 1999)

Surface water movement via overland flow is likely limited at the site because of man-made obstructions such as roadways and buildings; however, a surface drain located near the northwest corner

of the building is believed to discharge to the lake west of the site. This lake has a drainage area of 171 acres and a surface area of 7.2 acres (USFWS 1983). The lake does not support any sport fish species (USFWS 1983). The site is an active facility used in conjunction with the Metlakatla Forest Products sawmill located in the Hangar Facility (Site 75). Currently, five workers regularly occupy the site, but when the sawmill is fully operational, 22 workers regularly occupy the site (Mandan 2000). The site is accessible; the town of Metlakatla is located approximately six miles north of the site.

3.76 Trailer (Former MoGas - Gas UST Service Island; Site 76)

A gas service island was formerly located at this site; a number of USTs are believed to exist in the area (Figure 3-29). A trailer, 20 by 60 feet and 8 feet high, currently exists at the site and has been used by Metlakatla Forest Products as administrative offices and employee housing. (REI 1998b)

The MoGas station was included in the BSA performed by the EPA in 1998. One co-located surface and subsurface soil sample was collected from the former Mo-Gas station area and analyzed for VOCs, SVOCs, pesticides, PCBs, GRO/BTEX, DRO, RRO, and TAL metals. TAL metals, detected in the surface soil sample at concentrations at least three times the background concentration and above the State of Alaska Soil Cleanup Levels, consist of chromium (81.3 mg/kg) and nickel (358 mg/kg). No other contaminants were detected in the surface soil sample at concentrations above a comparison standard. Chromium (166 mg/kg) and nickel (594 mg/kg) also were detected in the subsurface soil sample at concentrations at least three times the background concentration and above the State of Alaska Soil Cleanup Levels. No other contaminants were detected in the subsurface soil sample at concentrations above a comparison standard. (E & E 1999)

The FAA decommissioned and removed two USTs from the site in 1999. An approximately 1,000-gallon gasoline/diesel tank located on the south side of the former service building was removed. Approximately 5 cubic yards of soil were excavated for tank removal and an additional 5 cubic yards of petroleum-contaminated soil were removed based on field screening results. Groundwater was encountered at 4 feet bgs and a sheen was noted during the excavation. MIC and ADEC soil cleanup levels were not reached during the tank removal; a release investigation is scheduled for the summer of 2000. The second UST, an approximate 1,200-gallon gasoline tank, was removed from the west side of the former service building. Approximately 10 cubic yards of soil were excavated for the UST removal and an additional 3 cubic yards of petroleum-contaminated soil were removed based on field screening results. MIC and ADEC soil cleanup levels were not reached during the tank removal; a release

investigation is scheduled for the summer of 2000 (work plans for this period are presently unavailable). (CH2-OH 2000)

Restoration activities at the site, estimated at \$300,000 and scheduled for fiscal years 1999-2001, include removal of three USTs (one near the Hangar) and associated petroleum-contaminated soil. As described above, these restoration efforts are in progress. The FAA is the lead agency for restoration efforts at the site. (MOU 1999)

Surface water movement via overland flow is generally toward the west and south. A lake, with a drainage area of 171 acres and a surface area of 7.2 acres, is located approximately 200 feet west of the site (USFWS 1983). The lake does not support any sport fish species (USFWS 1983). The site is accessible; the town of Metlakatla is located approximately 6 miles north of the site.

3.77 PNA/WA Terminal (Site 77)

The PNA/WA Terminal was a 40-by-100-foot, single-story, wood frame building that was razed by fire (Figure 3-29). The building contained a garage with two ASTs and a combination passenger lounge, food service, and ticketing area. An AST is located amongst building debris south of the former building location. Concrete saddles that housed an AST are still present at the former building location. During the LRI performed by REI, soil in the concrete saddle vicinity was visibly stained and emitted a petroleum odor. A soil sample was collected near the AST saddles; the sample contained DRO (27,000 mg/kg), RRO (550 mg/kg), and lead (446 mg/kg). (REI 1998b)

The PNA/WA Terminal was included in the BSA performed by the EPA in 1998. One co-located surface and subsurface soil sample was collected from the former terminal building adjacent to a set of AST concrete cradles and analyzed for pesticides, PCBs, GRO/BTEX, DRO, and RRO. In the surface soil sample, GRO was detected at an estimated concentration of 13,000 mg/kg and DRO was detected at a concentration of 83,000 mg/kg, both of which exceed the State of Alaska Soil Cleanup Levels. In the subsurface soil sample, DRO was detected at 9,600 mg/kg, which also exceeds the State of Alaska Soil Cleanup Levels. No other contaminants were detected at concentrations above a comparison standard in the surface or subsurface soil. (E & E 1999)

Restoration activities at the site are estimated at \$430,000 and scheduled for fiscal year 2004. Site restoration activities include removal of asbestos and lead-based paint, building debris, and contaminated soil, as well as replacement of the terminal building. The BIA is the lead agency for restoration activities at the site. (MOU 1999)

Surface water movement via overland flow is likely limited at the site because of man-made obstructions such as roadways and buildings. The site is accessible; the town of Metlakatla is located approximately 6 miles north of the site.

3.78 Air Traffic Control Tower (Site 78)

The Air Traffic Control Tower (ATCT) is a 40-foot orange and white steel tower on concrete pedestals (Figure 3-29). An electrical transformer, fluorescent light fixtures with ballasts, and metal and wood debris are located at the base of the ATCT; the abandoned material was reportedly removed from the Hangar Facility (Site 75). A UST was located to the west of the AST; a soil sample was collected during the REI LRI near the UST fill pipe. The soil sample contained lead (47 mg/kg). (REI 1998b)

The ATCT was included in the BSA performed by the EPA in 1998. An active MP & L box-type, ground-mounted transformer was present at the base of the ATCT. Two sets of co-located surface and subsurface soil samples were collected from the FAA ATCT area and analyzed for pesticides, PCBs, GRO/BTEX, DRO, RRO, and TAL metals. Two additional surface soil samples were collected and analyzed for pesticides, PCBs, and TAL metals. PCBs (Aroclor 1260) were detected in surface soil at 212 µg/kg, which exceeds the EPA, Region 9, Residential Soil PRGs. DRO was detected in surface soil at 1,700 mg/kg, which exceeds the State of Alaska Soil Cleanup Levels. Chromium and nickel were detected in all surface soil samples at concentrations at least three times the background concentration and above the State of Alaska Soil Cleanup Levels and the EPA, Region 9, Residential Soil PRG. Lead was detected at a concentration at least three times the background concentration and above the MIC Soil Cleanup Levels; the EPA, Region 9, Residential and Industrial Soil PRGs; and the State of Alaska Soil Cleanup Levels. In the co-located subsurface soil samples, chromium and nickel also were detected at concentrations at least three times the background concentration and above the State of Alaska Soil Cleanup Levels. No other contaminants were detected at concentrations above a comparison standard in the surface or subsurface soil. (E & E 1999)

The FAA decommissioned and removed a UST from the ATCT in 1999. The UST was an approximate 580-gallon, gasoline/diesel tank. Approximately 8 cubic yards of soil were removed during tank excavation and an additional 13 cubic yards of petroleum-contaminated soil were removed based on field screening results. The ADEC and MIC soil cleanup levels were not reached during the UST removal; a release investigation is planned for summer 2000 (work plans for this period are presently unavailable). (CH2-OH 2000)

Restoration activities at the site, estimated at \$175,000 and scheduled for fiscal years 1999-2001, include demolishing the tower and removing the UST and associated petroleum-contaminated soil. As described above, site restoration activities are in progress. The C3 Plan indicates that the ATCT may be of historic value and that SHPO issues exist at the site. The FAA is the lead agency for restoration efforts at the site. (MOU 1999)

Surface water movement via overland flow is likely limited at the site because of man-made obstructions such as roadways and buildings. The site is accessible; the town of Metlakatla is located approximately 6 miles north of the site.

3.79 Log Storage Yard (Site 79)

The sawmill facility operated by Metlakatla Forest Products stores logs in an approximately 300-by-400-foot open area southeast of the hangar building (Figure 3-29); the sawmill is not currently in operation. Reportedly, the area was filled with discarded 55-gallon drums of asphalt material. A magnetic scan of the area was unable to locate buried 55-gallon drums; however, a significant volume of asphalt pavement chunks were observed in the area. (REI 1998b)

Restoration activities at the site are estimated at \$390,000 and planned for fiscal year 2005. Site restoration activities include investigation and removal of 55-gallon drums, debris, and contaminated soil. The BIA is the lead agency for site restoration efforts. (MOU 1999)

Surface water movement via overland flow is likely limited at the site because of man-made obstructions such as roadways and buildings. The site is accessible; the town of Metlakatla is located approximately 6 miles north of the site.

3.80 Localizer (Site 80)

The Localizer building was described as an abandoned building in disrepair. During FAA Interim Cleanup Activities in 1994, five small sealed transformers were placed in a 30-gallon drum and moved to the VORTAC Facility (Site 27) for future disposal. (E & E 1995)

REI (1998a) described the facility as a 12-by-18-foot wood frame structure built in 1952. A downed tower and abandoned electrical equipment are located at the site.

Restoration activities at the site are estimated at \$25,000 and planned for fiscal years 1999-2000, however, no record of current restoration efforts could be found. Site restoration activities include removal of lead-based paint, asbestos, the collapsed building, and equipment. The C3 Plan indicates that

SHPO issues exist at the site. The FAA is the lead agency for restoration efforts at the Localizer facility. (MOU 1999)

Surface water is not expected to be a significant migration pathway at the site; surface water flow at the site is likely limited to isolated wetlands. The site is accessible; the town of Metlakatla is located approximately 7 miles north of the site.

3.81 Moss Point Garrison (Site 81)

The Moss Point Garrison consisted of approximately 35 quonset-hut-style buildings and served as a housing complex for airfield personnel (Army 1942; REI 1998a). A mess hall, latrine, and possibly a powerhouse were likely located at the garrison. Quonset huts are currently decaying in a thickly vegetated area (REI 1998a).

Restoration activities at the site are estimated at \$250,000 and are scheduled for fiscal year 2000; however, project eligibility issues have not yet been resolved. Restoration activities include the investigation and remediation of sewer issues and potential POL- and solvent-contaminated soil. The C3 Plan indicates that SHPO issues exist at the site. The DoD is the lead agency for restoration efforts at the site. (MOU 1999)

The site is located approximately 0.125 mile from the coast; surface water flow at the site is generally toward the southeast. Moss Point Creek (12 cfs) is located south of the site; the creek supports cutthroat trout and pink, chum, and coho salmon (USFWS 1983). The site is accessible; the town of Metlakatla is located approximately 7.5 miles north of the site.

3.82 Winnipeg Garrison (PAA Housing; Site 82)

The Winnipeg Garrison consisted of quonset hut and wood frame structures used as living quarters for airfield personnel (Figure 3-30). The size of the garrison is unknown. The facility included a boiler building and AST, mess hall, septic tank, administrative building, and possibly a powerhouse. After the war, PAA upgraded some of the garrison buildings with vinyl tile flooring, framed-in rooms, insulation, decorative woodwork, and painted ceilings and walls. Other buildings at the site were left to deteriorate. Remains at the garrison consist of erect and collapsed quonset huts and wood frame buildings, wood and concrete foundations, wood and metal debris, and miscellaneous discarded material. A magnetometer survey of the site failed to locate any USTs in the area. AST cribbing was located on the northeast side of the boiler building. (REI 1998b)

REI contracted asbestos abatement work at various sites on Annette Island in 1999, including the Winnipeg Garrison. The following ACM was removed: brown/green floor tile, rolled vinyl floor tile, window caulking, pipe wrap insulation, pipe-fitting insulation, boiler door insulation, and boiler insulation. All ACM was removed from the site, except for an asbestos board located under the boiler. Heavy equipment would be required to remove the boiler; therefore, the asbestos board was left in place as removal would likely cause more environmental damage. (REI 1999)

Restoration activities at the site are estimated at \$500,000 and scheduled for fiscal year 2001; however, project eligibility issues have not yet been resolved. Restoration activities include the investigation and removal of potential fuel tanks and associated POL-contaminated soil. The DoD is the lead agency for restoration efforts at the site. (MOU 1999)

Annette Inn Creek flows through the site to the south and discharges to the ocean near Moss Point. The creek flows through former building and septic tank locations at the site; therefore, site contaminants may have directly discharged to Annette Inn Creek. The creek has a flow volume of 12 cfs and supports pink and coho salmon (USFWS 1983). Tokyo Creek, a tributary of Annette Inn Creek with a volume of 4 cfs, is located approximately 0.25 mile south of the site (USFWS 1983). Tokyo Creek supports chum salmon and possibly cutthroat trout (USFWS 1983). The site is accessible; the town of Metlakatla is located approximately 7 miles north of the site.

3.83 Annette Inn Auxiliary Area (Site 83)

Reportedly, the site served a dual purpose as both anti-aircraft positions and personnel housing. The number of buildings at the site is unknown. Remains at the site consist of a wood foundation, metal and wood debris, electrical conduit, water pipe, and an AST (Figure 3-30). The AST and cribbing were located approximately 400 feet south of the Point Davison Road; the tank is lying in a small creek south of the cribbing. A sample was collected below the humus layer adjacent to the cribbing; the sample contained RRO (13 mg/kg) and lead (169 mg/kg). Restoration activities at the site are estimated at \$200,000 and scheduled for fiscal year 2002; however, project eligibility issues have not yet been resolved. Restoration activities include the removal of collapsed structures in the creek. The DoD is the lead agency for restoration efforts at the site. (REI 1998b; MOU 1999)

Annette Inn Creek flows through the site to the south and discharges to the ocean near Moss Point. The creek has a flow volume of 12 cfs and supports pink and coho salmon. Tokyo Creek, a tributary of Annette Inn Creek with a volume of 4 cfs, is located approximately 0.25 mile south of the

site. Tokyo Creek supports chum salmon and possibly cutthroat trout. (USFWS 1983) The site is accessible; the town of Metlakatla is located approximately 7 miles north of the site.

3.84 Tokyo Garrison (Site 84)

The Tokyo Garrison, utilized as housing for airfield personnel, consisted of approximately 60 buildings of quonset hut and wood frame construction. Restoration activities at the site, estimated at \$250,000 and scheduled for fiscal years 2002-2003, will include the investigation and removal of POL contamination associated with power generators and fuel tanks. Also, buildings on site are eligible for demolition. The C3 Plan indicates that SHPO issues exist at the site. The FUDS Program associated with USAED, Alaska, is the lead agency for restoration efforts at the site. (Army 1943b; MOU 1999)

An unnamed creek flows directly through the site and into Tokyo Lake on the south side of the site. Septic tanks at the site were likely connected to the creek; thus, possible site contaminants have a direct route to surface water at the site. Tokyo Lake has a drainage area of 30 acres and a surface area of 7.2 acres (USFWS 1983). The lake supports a population of cutthroat trout (USFWS 1983). Tokyo Creek flows from the lake at a volume of 4 cfs and supports chum salmon and possibly cutthroat trout (USFWS 1983). The site is accessible; the town of Metlakatla is located approximately 7 miles north of the site.

3.85 Tropospheric Relay Station (Site 85)

The Tropospheric Relay Station was believed to be part of the USAF WAS communication system. In the early 1970s, site operation was relinquished to the local telephone utility. Remains at the site consist of a 15-foot-tall, 60-by-300-foot cement block building, two 60-foot-tall and 60-foot-wide flat-type antennas, a 30-foot cylindrical tower in front of each antenna, a small generator building, a small wood frame building, small metal buildings, numerous concrete foundations, sections of an orange and white antenna tower, and miscellaneous debris (Figure 3-31). The communications buildings contain cementitious interior walls, vinyl floor tiling, eight unlabeled compressed gas containers, abandoned communications equipment, a circular communications disk on the roof, platform mounted transformers, and an AST and abandoned transformer near the suspected housing buildings. A magnetometer survey at the site failed to locate any abandoned USTs; other evidence suggests that an AST was contained within the small generator building. An AST was located near the suspected housing area; a soil sample collected in this area contained GRO (140 mg/kg), DRO (99,000 mg/kg), RRO (3,200 mg/kg), and lead (1,080 mg/kg). Three soil samples were taken in the vicinity of the main building, including one along

the concrete slab foundation near the door on the northwest side of the building and two below a drain along the east side of the main building. The sample collected near the northwest side door contained DRO (370 mg/kg), RRO (480 mg/kg), PCBs (4.5 mg/kg), 1,2,4-trichlorobenzene (1,300 µg/kg), butylbenzylphthalate (85 µg/kg), barium (44 mg/kg), cadmium (6.2 mg/kg), chromium (24.8 mg/kg), lead (181 mg/kg), mercury (0.1 mg/kg), and silver (0.4 mg/kg). Multiple contaminants were detected in both samples collected at the east side building drain; maximum contaminant concentrations in the two drain samples were DRO (6,600 mg/kg), RRO (1,900 mg/kg), PCBs (31,000 mg/kg), 1,2-dichlorobenzene (3,400 µg/kg), 1,4-dichlorobenzene (2,400 µg/kg), 1,2,4-trichlorobenzene (1,900,000 µg/kg), hexachlorobenzene (3,700 µg/kg), barium (32.9 mg/kg), cadmium (0.7 mg/kg), chromium (14 mg/kg), lead (182 mg/kg), and mercury (0.09 mg/kg). Approximately 500 square feet of floor in the northern half of the main building was covered by a shiny, sticky film about 0.06 inch thick. A wipe sample was collected from the concrete floor; the sample contained PCBs (8,600,000 µg/kg), 1,2,4-trichlorobenzene (19,000 µg/kg), and hexachlorobenzene (450 µg/kg). (REI 1998b)

In 1999, GTE Alaska removed all structures from the Tropospheric Relay Station. PCB soil contamination, fuel tanks, fuel-contaminated soil, and asbestos were removed (FAA 2000).

The Tropospheric Relay Station is listed, but is not addressed, in the C3 Plan. Restoration efforts at the site are currently not planned by the various federal agencies actively cleaning up sites on Annette Island. It is unknown why this site is not included in the C3 Plan restoration; however, it is possible that the Tropospheric Relay Station is not included because of the extensive use of the site by GTE, Alaska, after federal relinquishment of the site. (MOU 1999)

Surface water is not expected to be a significant migration pathway at the site; surface water flow at the site is likely limited to isolated wetlands and is generally toward the southeast. The site is accessible; the town of Metlakatla is located approximately 7.5 miles north of the site.

3.86 Satellite Tracking Station (Site 86)

The facility was constructed in 1961 for early satellite radar tracking. Remains at the site include a cylindrical concrete structure and several utility poles. Restoration activities at the site, estimated at \$25,000 and scheduled for fiscal year 2004, include investigation of possible contaminants associated with the concrete structures, as well as potential lead-based paint and lead-contaminated soil. The C3 Plan indicates that SHPO issues exist at the site. The FUDS Program associated with USAED, Alaska, is the lead agency for restoration activities at the site. (REI 1998a; MOU 1999)

The site is located on top of a slight crest, therefore surface water at the site will likely flow radially from the site. Davison Lake No. II is located approximately 0.25 mile northeast of the site. The lake has a drainage area of 65 acres and a surface area of 9 acres; the lake supports a population of cutthroat trout (USFWS 1983). Point Davison, approximately 0.5 mile south of the site, is an important subsistence gathering location for local residents. The site is accessible; the town of Metlakatla is located approximately 9 miles north of the site.

3.87 Point Davison Garrison (Site 87)

Point Davison Garrison, consisting of approximately 40 buildings, served as housing for airfield personnel, as well as personnel manning the 155 mm gun positions and other coastal defenses (Army 1942). Like other garrisons on the peninsula, the buildings were likely quonset hut or wood frame construction. A sewer system at the site is thought to contain solvents. (REI 1998a; MOU 1999)

An underwater ordnance survey was performed around the lighted rock area of Point Davison; no munitions were found in the area (ACD n.d.).

USAED, Alaska, performed an ordnance explosive survey at multiple locations throughout the peninsula, including Point Davison. The remains of two Panama Gun mounts are located at the end of the Point Davison Road; three storage structures that supported these gun mounts have collapsed and deteriorated and are overgrown by vegetation. A concrete base constructed in the 1950s remains at one of the former gun mounts. Two additional Panama Gun mounts located approximately 1,000 feet northwest of Point Davison have been lost to shore erosion. Four storage structures that supported these gun mounts have collapsed and deteriorated and are overgrown by vegetation. (USAED 1996)

Restoration activities at the site are estimated at \$500,000 and are scheduled for fiscal year 2005; however, project eligibility issues have not yet been resolved. Site restoration activities include investigation of sewer issues and potential POL and solvent contamination. The C3 Plan indicates that critical SHPO issues exist at the site. DoD is the lead agency for restoration efforts at the site. (REI 1998a; MOU 1999)

The site is located adjacent to the ocean near Point Davison. Surface water flow at the site is generally south and west and will discharge directly to the Pacific Ocean. Point Davison is an important subsistence gathering location for local residents. The site is accessible; the town of Metlakatla is located approximately 9 miles north of the site.

3.88 Burned Buildings (Site 88)

The burned buildings called out in the C3 Plan have not been specified; however, restoration issues related to burned buildings around the peninsula are addressed in individual site restoration efforts (MOU 1999).

3.89 Trash Dumps Island Wide (Site 89)

There are numerous trash dumps throughout the island that contain debris from various sources, such as the Municipal Landfill (Site 5), the Automobile Landfill (Site 10), and unnamed trash dumps at Point Davison and Cemetery Beach. In addition to restoration activities identified at the individual sites, \$500,000 of restoration efforts scheduled for fiscal years 2000-2003 are planned for island-wide trash dumps. Site restoration activities include removal of government agency trash, electronic equipment, and environmental issues. Some WW II airplane parts may be historic and will be salvaged during restoration efforts. The FAA is the lead agency for restoration efforts at the island-wide trash dumps. (REI 1998a; MOU 1999)

3.90A Fuel Dump Sites (Drums) - Island Wide (Site 90A)

Reportedly, there are 12 drum dump sites throughout the peninsula with a total of approximately five thousand 55-gallon fuel drums, many of which contain asphalt material for runway paving operations. In addition to the drum removal actions identified for individual sites, \$750,000 of restoration efforts scheduled for fiscal years 1999-2002 have been planned for fuel dump sites around the island. The FAA is the lead agency for restoration activities at these sites. (REI 1998a; MOU 1999)

3.90B Debris/Empty Drums (Site 90B)

Drums and other miscellaneous debris were discarded by the DoD at various locations around the peninsula. In addition to the drum removal actions identified for individual sites, \$350,000 of restoration efforts scheduled for fiscal year 1999 have been planned for debris/drum dump sites around the island. Numerous drum and debris removal actions occurred in 1999, most of which could be linked to restoration activities at specific sites, such as the Automobile Landfill (Site 10), Main Hospital (Site 18), USCG Storage Area (Site 33B), and a suspected runway parking circle at the junction of Canoe Cove Road and Metlakatla to Airport Road (Site 64; JEG 2000c). The DoD is the lead agency for restoration activities at these sites. (MOU 1999)

3.91 Hotspur Island (Site 91)

An observation post was established on Hotspur Island for the purpose of early detection and warning of incoming enemy troops (MOU 1999). The post consisted of two quonset huts (Army 1942). No environmental issues or restoration work has been identified at this site (MOU 1999). The FUDS Program associated with USAED, Alaska, is the lead agency for restoration issues at the site (MOU 1999).

3.92 Callaghan Island (Site 92)

An observation post was established on Callaghan Island for the purpose of early detection and warning of incoming enemy troops. No environmental issues or restoration work has been identified at this site. The FUDS Program associated with USAED, Alaska, is the lead agency for restoration issues at the site. (MOU 1999)

3.93 Warburton Island (Site 93)

An observation post was established on Warburton Island for the purpose of early detection and warning of incoming enemy troops. No environmental issues or restoration work has been identified at this site. The FUDS Program associated with USAED, Alaska, is the lead agency for restoration issues at the site. (MOU 1999)

3.94 Other Sites

USAED, Alaska, performed an ordnance explosive survey at numerous sites throughout the peninsula in 1996, two of which cannot be conclusively linked to one of the specific sites described above. Elephant Shelter Area No. 1 served as the primary ordnance storage facility for Annette Island. A USACE 1956 facility inventory of all DoD facilities transferred to the USCG indicated that most of the Elephant Shelters had been removed by 1956; the remaining Elephant Shelters have been removed since 1956 as none currently remain on site. Elephant Shelter Area No. 2 was relinquished to the DOI in 1949. None of the Elephant Shelters that existed at this site remain in their original location (these site names may refer to Site 6 - Shell Storage Bunkers). (USAED 1996)

The DoD has plans for asbestos abatement of 10 percent of total possible projects in federally-owned buildings throughout the peninsula. Approximately \$600,000 was slated for fiscal year 1999; however, project eligibility under DoD programs has not yet been resolved. (MOU 1999)

The DoD also has plans for lead-based paint removal of 10 percent of total possible projects in federally-owned buildings throughout the peninsula. Approximately \$1,000,000 was slated for fiscal years 2007-2008; however, project eligibility under DoD programs has not yet been resolved. (MOU 1999)

USAED, Alaska, performed removal actions at two sites that cannot conclusively be connected to individual sites previously described. Forty small capacitors, one transformer, and one rectifier were removed from a remote trailer in April 1997. In May 1997, 96 small capacitors were removed from a remote trailer (the "remote trailer" may refer to Site 63 - the Remote Receiver Station), as well as an Abandoned High Frequency Communications Tower Building. (OHM 1998)

Table 3-1

**SOIL ANALYTICAL DATA SUMMARY
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA**

	Standards			Water Treatment Plant (Site 1)	Engineer Garrison (Site 2)	BIA Road Maintenance Center (Site 7)	Power Generation Plant (Site 9)	Automobile Landfill (Site 10)	North Tangas Harbor Tank Farm (Site 12)
	MIC	ADEC	PRG						
Metals (mg/kg)									
Aluminum	NA	NA	76,000	NA	NA	NA	24500	NA	NA
Antimony	NA	3	31	NA	NA	NA	3100 ^{bc}	NA	NA
Arsenic	NA	1.8	22	NA	NA	NA	137 ^{bc}	10 ^b	NA
Barium	982	982	5,400	NA	NA	34.5	308	653	40.6
Beryllium	NA	1.6	150	NA	NA	NA	0.714	NA	NA
Cadmium	4.5	4.5	37	NA	NA	0.8	3.35	27 ^{ab}	0.8
Calcium	NA	NA	NA	NA	NA	NA	22300	NA	NA
Chromium	100	23	210	NA	NA	186 ^{ab}	218 ^{abc}	195 ^{ab}	122 ^{ab}
Cobalt	NA	NA	4,700	NA	NA	NA	93.7	NA	NA
Copper	NA	NA	2,900	NA	NA	NA	149	NA	NA
Iron	NA	NA	23,000	NA	NA	NA	59500 ^c	NA	NA
Lead	250	400	400	NA	NA	90	145000 ^{abc}	582 ^{abc}	12
Magnesium	NA	NA	NA	NA	NA	NA	48100	NA	NA
Manganese	NA	NA	1,800	NA	NA	NA	940	NA	NA
Mercury	22	1.24	23	9020 ^{abc}	NA	NA	0.236	0.4	NA
Nickel	NA	78	1,600	NA	NA	NA	672 ^b	NA	NA
Potassium	NA	NA	NA	NA	NA	NA	5890	NA	NA
Selenium	NA	3	390	NA	NA	NA	1.4	NA	NA
Silver	40	19	390	NA	NA	NA	29.4 ^b	NA	NA
Sodium	NA	NA	NA	NA	NA	NA	894	NA	NA
Vanadium	NA	580	550	NA	NA	NA	107	NA	NA
Zinc	NA	8,100	23,000	NA	NA	NA	2290	NA	NA

Key is at the end of the table.

Table 3-1 (CONTINUED)

SOIL ANALYTICAL DATA SUMMARY
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA

	Standards			Water Treatment Plant (Site 1)	Engineer Garrison (Site 2)	BIA Road Maintenance Center (Site 7)	Power Generation Plant (Site 9)	Automobile Landfill (Site 10)	North Tangas Harbor Tank Farm (Site 12)
	MIC	ADEC	PRG						
Polychlorinated Biphenyls (µg/kg)									
Aroclor 1260	80	1,000	220	NA	NA	NA	NA	400 ^{ac}	NA
Aroclor 1254	80	1,000	220	NA	NA	NA	NA	500 ^{ac}	NA
Pesticides/Insecticides/Chlorinated Herbicides (µg/kg)									
2,4,5-TP (Silvex)	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-DB	NA	NA	490,000	NA	NA	NA	NA	NA	NA
2-Hexanone	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aldrin	30	400	29	NA	NA	NA	NA	NA	NA
Chloramben	NA	NA	NA	NA	NA	NA	NA	NA	NA
DDD	NA	28,000	2,400	NA	NA	NA	NA	NA	NA
DDE	NA	20,000	1,700	NA	NA	NA	NA	NA	NA
DDT	1,700	20,000	1,700	NA	NA	43	NA	NA	NA
Dichlorprop	NA	NA	690,000	NA	NA	NA	NA	NA	NA
Gamma-Chlordane	NA	3,000	1,600	NA	NA	NA	NA	NA	NA
Volatile Organic Compounds (µg/kg)									
1,1,1-Trichloroethane	NA	900	770,000	NA	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	NA	10	38	NA	NA	NA	NA	NA	NA
1,1-Dichloroethene	NA	30	54	NA	NA	NA	6.2	NA	NA
1,2,4-Trichlorobenzene	480,000	1,700	650,000	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	51,000	NA	5,700	NA	NA	NA	11400 ^f	NA	NA
1,2-Dichlorobenzene	6,000	6,000	370,000	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	21,000	NA	21,000	NA	NA	NA	4400	NA	NA
1,3-Dichlorobenzene	NA	NA	13,000	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	700	700	3,400	NA	NA	NA	NA	NA	NA
2-Butanone	48,000,000	NA	NA	NA	NA	NA	NA	2000	NA

Key is at the end of the table.

Table 3-1 (CONTINUED)

**SOIL ANALYTICAL DATA SUMMARY
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA**

	Standards			Water Treatment Plant (Site 1)	Engineer Garrison (Site 2)	BIA Road Maintenance Center (Site 7)	Power Generation Plant (Site 9)	Automobile Landfill (Site 10)	North Tamgas Harbor Tank Farm (Site 12)
	MIC	ADEC	PRG						
Volatile Organic Compounds (µg/kg)									
4-methyl-2-Pentanone	NA	NA	NA	NA	NA	NA	18.2	NA	NA
Acetone	9,000	9,000	1,600,000	NA	NA	1000	108	NA	NA
Benzene	100	20	670	NA	NA	NA	NA	NA	NA
Chlorobenzene	NA	500	225,000	NA	NA	NA	NA	NA	NA
Chloroform	NA	300	240	NA	NA	NA	NA	NA	NA
Dichlorodifluoromethane	NA	NA	94,000	NA	NA	NA	NA	NA	NA
Ethylbenzene	20,000	5,000	230,000	NA	NA	NA	551	NA	NA
Hexachlorobenzene	280	700	300	NA	NA	NA	NA	NA	NA
Isopropylbenzene	NA	NA	160,000	NA	NA	NA	811	NA	NA
M,P-Xylene	20,000	69,000	210,000	NA	NA	NA	2000	NA	NA
Methane	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylene Chloride	8,500	10	8,900	NA	NA	NA	87.1 ^b	NA	NA
Naphthalene	30,000	38,000	56,000	NA	NA	NA	49.6	NA	NA
n-Butylbenzene	NA	NA	140,000	NA	NA	NA	4880	NA	NA
n-Propylbenzene	130,000	NA	140,000	NA	NA	NA	1730	NA	NA
o-Xylene	20,000	69,000	210,000	NA	NA	NA	1580	NA	NA
p-Isopropyltoluene	NA	NA	NA	NA	NA	NA	2620	NA	NA
sec-Butylbenzene	NA	NA	110,000	NA	NA	NA	2270	NA	NA
Tert-butylbenzene	NA	NA	130,000	NA	NA	NA	NA	NA	NA
Tetrachloroethane	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	40,000	4,800	5,200	NA	NA	NA	24.6	NA	NA
Trichlorofluoromethane	NA	NA	390,000	NA	NA	NA	NA	NA	NA

Key is at the end of the table.

Table 3-1 (CONTINUED)

**SOIL ANALYTICAL DATA SUMMARY
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA**

	Standards			Water Treatment Plant (Site 1)	Engineer Garrison (Site 2)	BIA Road Maintenance Center (Site 7)	Power Generation Plant (Site 9)	Automobile Landfill (Site 10)	North Tamgas Harbor Tank Farm (Site 12)
	MIC	ADEC	PRG						
Semi-volatile Organic Compounds (µg/kg)									
4-Methylphenol	NA	NA	310,000	NA	NA	NA	NA	NA	NA
Acenaphthene	190,000	190,000	3,700,000	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	3,900,000	22,000,000	NA	NA	NA	150	NA	NA
Benzo(a)anthracene	NA	5,500	620	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	100	900	62	230 ^{ac}	NA	NA	NA	680 ^{ac}	NA
Benzo(b)fluoranthene	100	9,000	62	160 ^{ac}	NA	NA	NA	410 ^{ac}	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	100	93,000	6,200	240 ^a	NA	NA	NA	230 ^a	NA
Benzoic acid	NA	350,000	100,000	NA	NA	NA	NA	NA	NA
Bis(2-ethylhexyl)phthalate	32,000	490,000	35,000	NA	NA	NA	4190	NA	NA
Butylbenzylphthalate	NA	NA	12,000	NA	NA	NA	580	NA	NA
Chrysene	NA	550,000	62,000	NA	NA	NA	248	NA	NA
Dibenzo(a,h)anthracene	NA	900	62	NA	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	290,000	NA	NA	NA	2990	NA	NA
Diethylphthalate	NA	170,000	49,000,000	NA	NA	NA	NA	NA	NA
Di-n-Butylphthalate	8,000,000	NA	NA	NA	NA	NA	459	NA	NA
Fluoranthene	1,900,000	1,900,000	2,300,000	NA	NA	NA	209	NA	NA
Fluorene	NA	240,000	2,600	NA	NA	NA	4800 ^c	NA	NA
Indeno(1,2,3-cd)pyrene	NA	9,000	620	NA	NA	NA	NA	NA	NA
Isophorone	NA	2,600	510,000	NA	NA	NA	NA	NA	NA
Naphthalene	30,000	38,000	56,000	NA	NA	NA	8100	NA	NA
Naphthalene, 1-methyl-	NA	NA	NA	NA	NA	NA	31500	NA	NA
Naphthalene, 2-methyl-	NA	NA	NA	NA	NA	NA	48000	NA	NA

Key is at the end of the table.

Table 3-1 (CONTINUED)

**SOIL ANALYTICAL DATA SUMMARY
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA**

	Standards			Water Treatment Plant (Site 1)	Engineer Garrison (Site 2)	BIA Road Maintenance Center (Site 7)	Power Generation Plant (Site 9)	Automobile Landfill (Site 10)	North Tangas Harbor Tank Farm (Site 12)
	MIC	ADEC	PRG						
Semivolatile Organic Compounds (µg/kg)									
Pentachlorophenol	NA	9	3,000	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	7900	NA	NA
Phenol	NA	60,000	37,000	NA	NA	NA	NA	NA	NA
Pyrene	1,400,000	1,400,000	2,300,000	NA	NA	NA	1120	NA	NA
Retene	NA	NA	NA	NA	NA	NA	417	NA	NA
Petroleum Constituents (mg/kg)									
GRO	100	260	NA	NA	NA	NA	200 ^a	NA	19
DRO	200	230	NA	3400 ^{ab}	14	12000 ^{ab}	39000 ^{ab}	7700 ^{ab}	42000 ^{ab}
RRO	200	9,700	NA	4400 ^a	19	39000 ^{ab}	42000 ^{ab}	53000 ^{ab}	2400 ^a
Benzene	0.1	0.02	0.67	NA	NA	NA	NA	NA	NA
Toluene	40	4.8	520	NA	NA	NA	0.13	NA	NA
Ethylbenzene	20	5	230	NA	NA	NA	0.63	NA	0.076
m,p-Xylenes	20	69	210	NA	NA	NA	4.9	NA	0.35
o-Xylene	20	69	210	NA	NA	NA	2.9	NA	NA
Dioxins/Furans (ng/kg)									
1,2,3,4,6,7,8-HpCDD	NA	NA	3.9 ^d	NA	NA	NA	NA	NA	NA
1,2,3,4,6,7,8-HpCDF	NA	NA	3.9 ^d	NA	NA	NA	NA	NA	NA
1,2,3,4,7,8-HxCDF	NA	NA	3.9 ^d	NA	NA	NA	NA	NA	NA
1,2,3,6,7,8-HxCDF	NA	NA	3.9 ^d	NA	NA	NA	NA	NA	NA
OCDD	NA	NA	3.9 ^d	NA	NA	NA	NA	NA	NA
Total HpCDD	NA	NA	3.9 ^d	NA	NA	NA	NA	NA	NA
Total HpCDF	NA	NA	3.9 ^d	NA	NA	NA	NA	NA	NA
Total HxCDF	NA	NA	3.9 ^d	NA	NA	NA	NA	NA	NA

Key is at the end of the table.

Table 3-1 (CONTINUED)

**SOIL ANALYTICAL DATA SUMMARY
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA**

	Standards			White Alice Station (Site 15)	Main Hospital Area (Site 18)	Non-Directional Beacon (Site 19)	Weather Bureau Housing (Site 20)	Remote Communications Air-Ground Facility (Site 21)
	MIC	ADEC	PRG					
Metals (mg/kg)								
Aluminum	NA	NA	76,000	32800	NA	3980	NA	858
Antimony	NA	3	31	64.4 ^{bc}	NA	NA	NA	NA
Arsenic	NA	1.8	22	31.6 ^{bc}	69 ^{bc}	31.5 ^{bc}	NA	NA
Barium	982	982	5,400	2280 ^{ab}	1130 ^{ab}	145	NA	20.1
Beryllium	NA	1.6	150	0.38	NA	0.13	NA	NA
Cadmium	4.5	4.5	37	4.96 ^{ab}	10 ^{ab}	NA	NA	NA
Calcium	NA	NA	NA	18100	NA	3470	NA	4850
Chromium	100	23	210	250 ^{abc}	315 ^{abc}	298 ^{abc}	NA	NA
Cobalt	NA	NA	4,700	101	NA	73.6	NA	NA
Copper	NA	NA	2,900	23600 ^c	NA	86.7	NA	481
Iron	NA	NA	23,000	56500 ^c	NA	38600 ^c	NA	1560
Lead	250	400	400	8800 ^{abc}	1360 ^{abc}	2450 ^{abc}	557 ^{abc}	22.6
Magnesium	NA	NA	NA	210000	NA	129000	NA	3230
Manganese	NA	NA	1,800	1040	NA	676	NA	16.5
Mercury	22	1.24	23	3.02 ^b	NA	NA	NA	NA
Nickel	NA	78	1,600	1000 ^b	NA	592 ^b	NA	17.5
Potassium	NA	NA	NA	3680	NA	603	NA	NA
Selenium	NA	3	390	1.2	NA	2.3	NA	NA
Silver	40	19	390	146 ^{ab}	NA	NA	NA	NA
Sodium	NA	NA	NA	834	NA	NA	NA	NA
Vanadium	NA	580	550	77.4	NA	15.7	NA	NA
Zinc	NA	8,100	23,000	14200 ^b	NA	701	NA	270

Key is at the end of the table.

Table 3-1 (CONTINUED)

**SOIL ANALYTICAL DATA SUMMARY
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA**

	Standards			White Alice Station (Site 15)	Main Hospital Area (Site 18)	Non-Directional Beacon (Site 19)	Weather Bureau Housing (Site 20)	Remote Communications Air-Ground Facility (Site 21)
	MIC	ADEC	PRG					
Polychlorinated Biphenyls (µg/kg)								
Aroclor 1260	80	1,000	220	1600 ^{abc}	NA	NA	NA	NA
Aroclor 1254	80	1,000	220	170 ^a	NA	NA	NA	NA
Pesticides/Insecticides/Chlorinated Herbicides (µg/kg)								
2,4,5-TP (Silvex)	NA	NA	NA	NA	78	NA	NA	NA
2,4-DB	NA	NA	490,000	200	NA	NA	NA	NA
2-Hexanone	NA	NA	NA	NA	2100	NA	NA	NA
Aldrin	30	400	29	37 ^{ac}	NA	NA	NA	NA
Chloramben	NA	NA	NA	14	NA	NA	NA	NA
DDD	NA	28,000	2,400	NA	NA	NA	NA	NA
DDE	NA	20,000	1,700	NA	NA	NA	NA	NA
DDT	1,700	20,000	1,700	NA	NA	NA	NA	NA
Dichlorprop	NA	NA	690,000	110	NA	NA	NA	NA
Gamma-Chlordane	NA	3,000	1,600	NA	NA	NA	NA	NA
Volatile Organic Compounds (µg/kg)								
1,1,1-Trichloroethane	NA	900	770,000	39	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	NA	10	38	NA	1500 ^{bc}	NA	NA	NA
1,1-Dichloroethene	NA	30	54	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	480,000	1,700	650,000	11.2	NA	NA	NA	NA
1,2,4-Trimethylbenzene	51,000	NA	5,700	49.2	8300 ^c	NA	NA	NA
1,2-Dichlorobenzene	6,000	6,000	370,000	26.9	NA	NA	NA	NA
1,3,5-Trimethylbenzene	21,000	NA	21,000	290	120000 ^{ac}	NA	NA	NA
1,3-Dichlorobenzene	NA	NA	13,000	7	NA	NA	NA	NA
1,4-Dichlorobenzene	700	700	3,400	10.1	NA	NA	NA	NA
2-Butanone	48,000,000	NA	NA	780	NA	NA	NA	NA

Key is at the end of the table.

Table 3-1 (CONTINUED)

**SOIL ANALYTICAL DATA SUMMARY
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA**

	Standards			White Alice Station (Site 15)	Main Hospital Area (Site 18)	Non-Directional Beacon (Site 19)	Weather Bureau Housing (Site 20)	Remote Communications Air-Ground Facility (Site 21)
	MIC	ADEC	PRG					
Volatile Organic Compounds (µg/kg)								
4-methyl-2-Pentanone	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	9,000	9,000	1,600,000	387	NA	NA	NA	NA
Benzene	100	20	670	NA	NA	NA	NA	NA
Chlorobenzene	NA	500	225,000	NA	NA	NA	NA	NA
Chloroform	NA	300	240	NA	NA	NA	NA	NA
Dichlorodifluoromethane	NA	NA	94,000	5.3	NA	NA	NA	NA
Ethylbenzene	20,000	5,000	230,000	NA	NA	NA	NA	NA
Hexachlorobenzene	280	700	300	NA	NA	NA	NA	NA
Isopropylbenzene	NA	NA	160,000	2.8	NA	NA	NA	NA
M,P-Xylene	20,000	69,000	210,000	17	NA	NA	NA	NA
Methane	NA	NA	NA	NA	NA	NA	NA	NA
Methylene Chloride	8,500	10	8,900	NA	NA	NA	NA	NA
Naphthalene	30,000	38,000	56,000	262	3100	NA	NA	NA
n-Butylbenzene	NA	NA	140,000	NA	NA	NA	NA	NA
n-Propylbenzene	130,000	NA	140,000	5.1	NA	NA	NA	NA
o-Xylene	20,000	69,000	210,000	8.9	940	NA	NA	120
p-Isopropyltoluene	NA	NA	NA	280	11000	NA	NA	NA
sec-Butylbenzene	NA	NA	110,000	NA	NA	NA	NA	NA
Tert-butylbenzene	NA	NA	130,000	16.5	2300	NA	NA	NA
Tetrachloroethane	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	40,000	4,800	5,200	23.8	NA	NA	NA	1000
Trichlorofluoromethane	NA	NA	390,000	NA	NA	NA	NA	NA

Key is at the end of the table.

Table 3-1 (CONTINUED)

**SOIL ANALYTICAL DATA SUMMARY
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA**

	Standards			White Alice Station (Site 15)	Main Hospital Area (Site 18)	Non-Directional Beacon (Site 19)	Weather Bureau Housing (Site 20)	Remote Communications Air-Ground Facility (Site 21)
	MIC	ADEC	PRG					
Semi-volatile Organic Compounds (µg/kg)								
4-Methylphenol	NA	NA	310,000	300	NA	NA	NA	NA
Acenaphthene	190,000	190,000	3,700,000	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	3,900,000	22,000,000	NA	NA	NA	NA	200
Benzo(a)anthracene	NA	5,500	620	NA	NA	NA	NA	NA
Benzo(a)pyrene	100	900	62	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	100	9,000	62	NA	NA	51	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	100	93,000	6,200	NA	960 ^a	NA	NA	NA
Benzoic acid	NA	350,000	100,000	5210	NA	NA	NA	NA
Bis(2-ethylhexyl)phthalate	32,000	490,000	35,000	4370	NA	NA	NA	NA
Butylbenzylphthalate	NA	NA	12,000	NA	NA	NA	NA	NA
Chrysene	NA	550,000	62,000	102	NA	41	NA	520
Dibenzo(a,h)anthracene	NA	900	62	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	290,000	NA	NA	NA	NA	NA
Diethylphthalate	NA	170,000	49,000,000	1990	NA	51	NA	NA
Di-n-Butylphthalate	8,000,000	NA	NA	1280	NA	NA	NA	NA
Fluoranthene	1,900,000	1,900,000	2,300,000	293	NA	85	NA	790
Fluorene	NA	240,000	2,600	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	9,000	620	NA	NA	NA	NA	NA
Isophorone	NA	2,600	510,000	NA	NA	NA	NA	NA
Naphthalene	30,000	38,000	56,000	876	NA	NA	NA	NA
Naphthalene, 1-methyl-	NA	NA	NA	575	NA	NA	NA	NA
Naphthalene, 2-methyl-	NA	NA	NA	1660	1600	NA	NA	NA

Key is at the end of the table.

Table 3-1 (CONTINUED)

**SOIL ANALYTICAL DATA SUMMARY
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA**

	Standards			White Alice Station (Site 15)	Main Hospital Area (Site 18)	Non-Directional Beacon (Site 19)	Weather Bureau Housing (Site 20)	Remote Communications Air-Ground Facility (Site 21)
	MIC	ADEC	PRG					
Semi-volatile Organic Compounds (µg/kg)								
Pentachlorophenol	NA	9	3,000	127000 ^{bc}	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	614	NA	85	NA	1400
Phenol	NA	60,000	37,000	87	NA	NA	NA	NA
Pyrene	1,400,000	1,400,000	2,300,000	3570	NA	92	NA	1400
Retene	NA	NA	NA	1180	NA	NA	NA	NA
Petroleum Constituents (mg/kg)								
GRO	100	260	NA	550 ^{ab}	2600 ^{ab}	NA	68	NA
DRO	200	230	NA	55000 ^{ab}	110000 ^{ab}	NA	9700 ^{ab}	NA
RRO	200	9,700	NA	110000 ^{ab}	29000 ^{ab}	NA	NA	NA
Benzene	0.1	0.02	0.67	0.076 ^b	NA	NA	NA	NA
Toluene	40	4.8	520	0.85	NA	NA	NA	NA
Ethylbenzene	20	5	230	3.2	NA	NA	NA	NA
m,p-Xylenes	20	69	210	16	NA	NA	180 ^{ab}	NA
o-Xylene	20	69	210	6.9	NA	NA	NA	NA
Dioxins/Furans (ng/kg)								
1,2,3,4,6,7,8-HpCDD	NA	NA	3.9 ^d	NA	NA	22 ^c	NA	NA
1,2,3,4,6,7,8-HpCDF	NA	NA	3.9 ^d	NA	NA	6.75 ^c	NA	NA
1,2,3,4,7,8-HxCDF	NA	NA	3.9 ^d	NA	NA	4.64 ^c	NA	NA
1,2,3,6,7,8-HxCDF	NA	NA	3.9 ^d	NA	NA	2.5	NA	NA
OCDD	NA	NA	3.9 ^d	NA	NA	182 ^c	NA	NA
Total HpCDD	NA	NA	3.9 ^d	NA	NA	28.3 ^c	NA	NA
Total HpCDF	NA	NA	3.9 ^d	NA	NA	11.2 ^c	NA	NA
Total HxCDF	NA	NA	3.9 ^d	NA	NA	7.46 ^c	NA	NA

Key is at the end of the table.

Table 3-1 (CONTINUED)

SOIL ANALYTICAL DATA SUMMARY
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA

	Standards			Canoe Cove Garrison (Site 26)	VORTAC Facility (Site 27)	Landing Field (Site 33A)	Former USCG Storage Area (Site 33B)	Fuel Pipeline System (Site 39)	FAA Tank Farm (Site 42)
	MIC	ADEC	PRG						
Metals (mg/kg)									
Aluminum	NA	NA	76,000	NA	5030	NA	NA	NA	NA
Antimony	NA	3	31	NA	NA	NA	NA	NA	NA
Arsenic	NA	1.8	22	NA	12 ^b	NA	8 ^b	NA	NA
Barium	982	982	5,400	NA	45	37.3	NA	NA	NA
Beryllium	NA	1.6	150	NA	0.12	NA	NA	NA	NA
Cadmium	4.5	4.5	37	NA	8.2 ^{ab}	NA	NA	NA	NA
Calcium	NA	NA	NA	NA	4730	NA	NA	NA	NA
Chromium	100	23	210	NA	76 ^b	184 ^{ab}	120 ^{ab}	NA	NA
Cobalt	NA	NA	4,700	NA	68.1	NA	NA	NA	NA
Copper	NA	NA	2,900	NA	125	NA	NA	NA	NA
Iron	NA	NA	23,000	NA	36400 ^c	NA	NA	NA	NA
Lead	250	400	400	10	6020 ^{abc}	170	546 ^{abc}	5800 ^{abc}	235
Magnesium	NA	NA	NA	NA	119,000	NA	NA	NA	NA
Manganese	NA	NA	1,800	NA	647	NA	NA	NA	NA
Mercury	22	1.24	23	NA	1.1	0.05	NA	NA	NA
Nickel	NA	78	1,600	NA	640 ^b	NA	NA	NA	NA
Potassium	NA	NA	NA	NA	956	NA	NA	NA	NA
Selenium	NA	3	390	NA	NA	NA	NA	NA	NA
Silver	40	19	390	NA	NA	NA	NA	NA	NA
Sodium	NA	NA	NA	NA	51.3	NA	NA	NA	NA
Vanadium	NA	580	550	NA	18.8	NA	NA	NA	NA
Zinc	NA	8,100	23,000	NA	1000	NA	NA	NA	NA

Key is at the end of the table.

Table 3-1 (CONTINUED)

**SOIL ANALYTICAL DATA SUMMARY
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA**

	Standards			Canoe Cove Garrison (Site 26)	VORTAC Facility (Site 27)	Landing Field (Site 33A)	Former USCG Storage Area (Site 33B)	Fuel Pipeline System (Site 39)	FAA Tank Farm (Site 42)
	MIC	ADEC	PRG						
Polychlorinated Biphenyls (µg/kg)									
Aroclor 1260	80	1,000	220	NA	NA	NA	NA	NA	NA
Aroclor 1254	80	1,000	220	NA	NA	NA	NA	NA	NA
Pesticides/Insecticides/Chlorinated Herbicides (µg/kg)									
2,4,5-TP (Silvex)	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-DB	NA	NA	490,000	NA	NA	NA	NA	NA	NA
2-Hexanone	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aldrin	30	400	29	NA	NA	NA	NA	NA	NA
Chloramben	NA	NA	NA	NA	NA	NA	NA	NA	NA
DDD	NA	28,000	2,400	NA	NA	NA	NA	NA	98
DDE	NA	20,000	1,700	NA	NA	NA	NA	NA	NA
DDT	1,700	20,000	1,700	NA	NA	NA	NA	NA	218
Dichlorprop	NA	NA	690,000	NA	NA	NA	NA	NA	NA
Gamma-Chlordane	NA	3,000	1,600	NA	NA	NA	NA	NA	NA
Volatile Organic Compounds (µg/kg)									
1,1,1-Trichloroethane	NA	900	770,000	NA	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	NA	10	38	NA	NA	NA	NA	NA	NA
1,1-Dichloroethene	NA	30	54	NA	NA	NA	NA	NA	1428 ^{bc}
1,2,4-Trichlorobenzene	480,000	1,700	650,000	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	51,000	NA	5,700	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	6,000	6,000	370,000	NA	NA	NA	NA	NA	28378 ^{ab}
1,3,5-Trimethylbenzene	21,000	NA	21,000	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	NA	NA	13,000	NA	NA	NA	NA	NA	6209
1,4-Dichlorobenzene	700	700	3,400	NA	NA	NA	NA	NA	4374 ^{abc}
2-Butanone	48,000,000	NA	NA	NA	NA	550	NA	NA	NA

Key is at the end of the table.

Table 3-1 (CONTINUED)

SOIL ANALYTICAL DATA SUMMARY
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA

	Standards			Canoe Cove Garrison (Site 26)	VORTAC Facility (Site 27)	Landing Field (Site 33A)	Former USCG Storage Area (Site 33B)	Fuel Pipeline System (Site 39)	FAA Tank Farm (Site 42)
	MIC	ADEC	PRG						
Volatile Organic Compounds (µg/kg)									
4-methyl-2-Pentanone	NA	NA	NA	NA	2.8	NA	NA	NA	NA
Acetone	9,000	9,000	1,600,000	NA	NA	NA	NA	NA	NA
Benzene	100	20	670	NA	NA	NA	NA	NA	15372 ^{abc}
Chlorobenzene	NA	500	225,000	NA	NA	NA	NA	NA	2490 ^b
Chloroform	NA	300	240	NA	NA	NA	NA	NA	157
Dichlorodifluoromethane	NA	NA	94,000	NA	NA	NA	NA	NA	NA
Ethylbenzene	20,000	5,000	230,000	NA	NA	NA	NA	NA	3445
Hexachlorobenzene	280	700	300	NA	NA	NA	NA	NA	NA
Isopropylbenzene	NA	NA	160,000	NA	NA	NA	NA	NA	NA
M,P-Xylene	20,000	69,000	210,000	NA	NA	NA	NA	NA	24281 ^a
Methane	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylene Chloride	8,500	10	8,900	NA	NA	NA	NA	NA	NA
Naphthalene	30,000	38,000	56,000	NA	NA	NA	NA	NA	NA
n-Butylbenzene	NA	NA	140,000	NA	NA	NA	NA	NA	NA
n-Propylbenzene	130,000	NA	140,000	NA	NA	NA	NA	NA	NA
o-Xylene	20,000	69,000	210,000	NA	NA	NA	NA	NA	21627 ^a
p-Isopropyltoluene	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	NA	NA	110,000	NA	NA	NA	NA	NA	NA
Tert-butylbenzene	NA	NA	130,000	NA	NA	NA	NA	NA	NA
Tetrachloroethane	NA	NA	NA	NA	NA	NA	NA	NA	141
Toluene	40,000	4,800	5,200	NA	110	290	NA	NA	1483
Trichlorofluoromethane	NA	NA	390,000	NA	NA	NA	NA	NA	1441

Key is at the end of the table.

Table 3-1 (CONTINUED)

**SOIL ANALYTICAL DATA SUMMARY
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA**

	Standards			Canoe Cove Garrison (Site 26)	VORTAC Facility (Site 27)	Landing Field (Site 33A)	Former USCG Storage Area (Site 33B)	Fuel Pipeline System (Site 39)	FAA Tank Farm (Site 42)
	MIC	ADEC	PRG						
Semi-volatile Organic Compounds (µg/kg)									
4-Methylphenol	NA	NA	310,000	NA	NA	NA	NA	NA	NA
Acenaphthene	190,000	190,000	3,700,000	NA	NA	NA	NA	150000	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	3,900,000	22,000,000	NA	NA	NA	NA	350000	NA
Benzo(a)anthracene	NA	5,500	620	NA	NA	NA	NA	610000 ^{bc}	NA
Benzo(a)pyrene	100	900	62	NA	NA	NA	NA	460000 ^{abc}	NA
Benzo(b)fluoranthene	100	9,000	62	NA	NA	NA	130 ^{ac}	380000 ^{abc}	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA	110000	NA
Benzo(k)fluoranthene	100	93,000	6,200	NA	48	NA	NA	420000 ^{abc}	NA
Benzoic acid	NA	350,000	100,000	NA	NA	NA	NA	NA	NA
Bis(2-ethylhexyl)phthalate	32,000	490,000	35,000	NA	NA	NA	NA	NA	NA
Butylbenzylphthalate	NA	NA	12,000	NA	NA	NA	NA	NA	NA
Chrysene	NA	550,000	62,000	NA	96	NA	NA	650000 ^{bc}	NA
Dibenzo(a,h)anthracene	NA	900	62	NA	NA	NA	NA	66000 ^{bc}	NA
Dibenzofuran	NA	NA	290,000	NA	NA	NA	NA	NA	NA
Diethylphthalate	NA	170,000	49,000,000	NA	NA	NA	NA	NA	NA
Di-n-Butylphthalate	8,000,000	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	1,900,000	1,900,000	2,300,000	NA	130	NA	NA	1200000	NA
Fluorene	NA	240,000	2,600	NA	NA	NA	NA	210000 ^c	NA
Indeno(1,2,3-cd)pyrene	NA	9,000	620	NA	NA	NA	NA	120000 ^{bc}	NA
Isophorone	NA	2,600	510,000	NA	NA	NA	NA	NA	NA
Naphthalene	30,000	38,000	56,000	NA	NA	NA	NA	37000 ^a	NA
Naphthalene, 1-methyl-	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene, 2-methyl-	NA	NA	NA	NA	210	NA	NA	NA	NA

Key is at the end of the table.

Table 3-1 (CONTINUED)

**SOIL ANALYTICAL DATA SUMMARY
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA**

	Standards			Canoe Cove Garrison (Site 26)	VORTAC Facility (Site 27)	Landing Field (Site 33A)	Former USCG Storage Area (Site 33B)	Fuel Pipeline System (Site 39)	FAA Tank Farm (Site 42)
	MIC	ADEC	PRG						
Semivolatile Organic Compounds (µg/kg)									
Pentachlorophenol	NA	9	3,000	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	71	NA	NA	1100000	NA
Phenol	NA	60,000	37,000	NA	NA	NA	NA	NA	NA
Pyrene	1,400,000	1,400,000	2,300,000	NA	97	NA	NA	1400000	NA
Retene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Petroleum Constituents (mg/kg)									
GRO	100	260	NA	NA	NA	NA	NA	710 ^{ab}	NA
DRO	200	230	NA	85000 ^{ab}	NA	180	29000 ^{ab}	910000 ^{ab}	NA
RRO	200	9,700	NA	3600 ^a	NA	1200 ^a	9800 ^{ab}	91000 ^{ab}	NA
Benzene	0.1	0.02	0.67	NA	NA	NA	NA	11 ^{abc}	NA
Toluene	40	4.8	520	NA	NA	NA	NA	12 ^b	NA
Ethylbenzene	20	5	230	NA	NA	NA	NA	2.9	NA
m,p-Xylenes	20	69	210	620 ^{abc}	NA	NA	NA	7.4	NA
o-Xylene	20	69	210	NA	NA	NA	NA	NA	NA
Dioxins/Furans (ng/kg)									
1,2,3,4,6,7,8-HpCDD	NA	NA	3.9 ^d	NA	NA	NA	NA	NA	NA
1,2,3,4,6,7,8-HpCDF	NA	NA	3.9 ^d	NA	NA	NA	NA	NA	NA
1,2,3,4,7,8-HxCDF	NA	NA	3.9 ^d	NA	NA	NA	NA	NA	NA
1,2,3,6,7,8-HxCDF	NA	NA	3.9 ^d	NA	NA	NA	NA	NA	NA
OCDD	NA	NA	3.9 ^d	NA	NA	NA	NA	NA	NA
Total HpCDD	NA	NA	3.9 ^d	NA	NA	NA	NA	NA	NA
Total HpCDF	NA	NA	3.9 ^d	NA	NA	NA	NA	NA	NA
Total HxCDF	NA	NA	3.9 ^d	NA	NA	NA	NA	NA	NA

Key is at the end of the table.

Table 3-1 (CONTINUED)

**SOIL ANALYTICAL DATA SUMMARY
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA**

	Standards			South Tangas Harbor Dock - Dock and Pipeline (Site 43A)	USCG Housing (Site 44)	USCG Seaplane Base (Site 45A)	USCG Fire Station/ Post Exchange (Site 46)	Gasoline Station (Site 49)	Fire Truck Hut (Site 50)
	MIC	ADEC	PRG						
Metals (mg/kg)									
Aluminum	NA	NA	76,000	NA	NA	NA	NA	NA	NA
Antimony	NA	3	31	NA	NA	NA	NA	NA	NA
Arsenic	NA	1.8	22	NA	NA	NA	NA	NA	NA
Barium	982	982	5,400	17.6	NA	NA	NA	NA	NA
Beryllium	NA	1.6	150	NA	NA	NA	NA	NA	NA
Cadmium	4.5	4.5	37	0.5	NA	NA	NA	NA	NA
Calcium	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	100	23	210	91 ^b	NA	NA	NA	NA	NA
Cobalt	NA	NA	4,700	NA	NA	NA	NA	NA	NA
Copper	NA	NA	2,900	NA	NA	NA	NA	NA	NA
Iron	NA	NA	23,000	NA	NA	NA	NA	NA	NA
Lead	250	400	400	6	6	55	61	218	26
Magnesium	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	NA	NA	1,800	NA	NA	NA	NA	NA	NA
Mercury	22	1.24	23	NA	NA	NA	NA	NA	NA
Nickel	NA	78	1,600	NA	NA	NA	NA	NA	NA
Potassium	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	NA	3	390	NA	NA	NA	NA	NA	NA
Silver	40	19	390	NA	NA	NA	NA	NA	NA
Sodium	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	NA	580	550	NA	NA	NA	NA	NA	NA
Zinc	NA	8,100	23,000	NA	NA	NA	NA	NA	NA

Key is at the end of the table.

Table 3-1 (CONTINUED)

**SOIL ANALYTICAL DATA SUMMARY
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA**

	Standards			South Tamgas Harbor Dock - Dock and Pipeline (Site 43A)	USCG Housing (Site 44)	USCG Seaplane Base (Site 45A)	USCG Fire Station/ Post Exchange (Site 46)	Gasoline Station (Site 49)	Fire Truck Hut (Site 50)
	MIC	ADEC	PRG						
Polychlorinated Biphenyls (µg/kg)									
Aroclor 1260	80	1,000	220	NA	NA	NA	NA	NA	NA
Aroclor 1254	80	1,000	220	NA	NA	NA	NA	NA	NA
Pesticides/Insecticides/Chlorinated Herbicides (µg/kg)									
2,4,5-TP (Silvex)	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-DB	NA	NA	490,000	NA	NA	NA	NA	NA	NA
2-Hexanone	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aldrin	30	400	29	NA	NA	NA	NA	NA	NA
Chloramben	NA	NA	NA	NA	NA	NA	NA	NA	NA
DDD	NA	28,000	2,400	NA	NA	NA	NA	NA	NA
DDE	NA	20,000	1,700	NA	NA	NA	NA	NA	NA
DDT	1,700	20,000	1,700	NA	NA	NA	NA	NA	NA
Dichlorprop	NA	NA	690,000	NA	NA	NA	NA	NA	NA
Gamma-Chlordane	NA	3,000	1,600	NA	NA	NA	NA	NA	NA
Volatile Organic Compounds (µg/kg)									
1,1,1-Trichloroethane	NA	900	770,000	NA	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	NA	10	38	NA	NA	NA	NA	NA	NA
1,1-Dichloroethene	NA	30	54	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	480,000	1,700	650,000	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	51,000	NA	5,700	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	6,000	6,000	370,000	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	21,000	NA	21,000	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	NA	NA	13,000	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	700	700	3,400	NA	NA	NA	NA	NA	NA
2-Butanone	48,000,000	NA	NA	NA	NA	NA	NA	NA	NA

Key is at the end of the table.

Table 3-1 (CONTINUED)

**SOIL ANALYTICAL DATA SUMMARY
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA**

	Standards			South Tamgas Harbor Dock - Dock and Pipeline (Site 43A)	USCG Housing (Site 44)	USCG Seaplane Base (Site 45A)	USCG Fire Station/ Post Exchange (Site 46)	Gasoline Station (Site 49)	Fire Truck Hut (Site 50)
	MIC	ADEC	PRG						
Volatile Organic Compounds (ug/kg)									
4-methyl-2-Pentanone	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	9,000	9,000	1,600,000	NA	NA	NA	NA	NA	NA
Benzene	100	20	670	NA	NA	NA	NA	NA	NA
Chlorobenzene	NA	500	225,000	NA	NA	NA	NA	NA	NA
Chloroform	NA	300	240	NA	NA	NA	NA	NA	NA
Dichlorodifluoromethane	NA	NA	94,000	NA	NA	NA	NA	NA	NA
Ethylbenzene	20,000	5,000	230,000	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	280	700	300	NA	NA	NA	NA	NA	NA
Isopropylbenzene	NA	NA	160,000	NA	NA	NA	NA	NA	NA
M,P-Xylene	20,000	69,000	210,000	NA	NA	NA	NA	NA	NA
Methane	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylene Chloride	8,500	10	8,900	NA	NA	NA	NA	NA	NA
Naphthalene	30,000	38,000	56,000	NA	NA	NA	NA	NA	NA
n-Butylbenzene	NA	NA	140,000	NA	NA	NA	NA	NA	NA
n-Propylbenzene	130,000	NA	140,000	NA	NA	NA	NA	NA	NA
o-Xylene	20,000	69,000	210,000	NA	NA	NA	NA	NA	NA
p-Isopropyltoluene	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	NA	NA	110,000	NA	NA	NA	NA	NA	NA
Tert-butylbenzene	NA	NA	130,000	NA	NA	NA	NA	NA	NA
Tetrachloroethane	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	40,000	4,800	5,200	NA	NA	NA	NA	NA	NA
Trichlorofluoromethane	NA	NA	390,000	NA	NA	NA	NA	NA	NA

Key is at the end of the table.

Table 3-1 (CONTINUED)

**SOIL ANALYTICAL DATA SUMMARY
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA**

	Standards			South Tangas Harbor Dock - Dock and Pipeline (Site 43A)	USCG Housing (Site 44)	USCG Seaplane Base (Site 45A)	USCG Fire Station/ Post Exchange (Site 46)	Gasoline Station (Site 49)	Fire Truck Hut (Site 50)
	MIC	ADEC	PRG						
Semi-volatile Organic Compounds (µg/kg)									
4-Methylphenol	NA	NA	310,000	NA	NA	NA	NA	NA	NA
Acenaphthene	190,000	190,000	3,700,000	NA	NA	62	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	140	NA	NA	NA
Anthracene	NA	3,900,000	22,000,000	NA	NA	100	NA	NA	NA
Benzo(a)anthracene	NA	5,500	620	NA	NA	510	NA	NA	NA
Benzo(a)pyrene	100	900	62	NA	NA	420 ^{ac}	NA	NA	NA
Benzo(b)fluoranthene	100	9,000	62	NA	NA	840 ^{ac}	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	160	NA	NA	NA
Benzo(k)fluoranthene	100	93,000	6,200	NA	NA	850 ^a	NA	NA	NA
Benzoic acid	NA	350,000	100,000	NA	NA	NA	NA	NA	NA
Bis(2-ethylhexyl)phthalate	32,000	490,000	35,000	96	NA	NA	NA	NA	NA
Butylbenzylphthalate	NA	NA	12,000	NA	NA	NA	NA	NA	NA
Chrysene	NA	550,000	62,000	85	NA	1400	NA	NA	NA
Dibenzo(a,h)anthracene	NA	900	62	NA	NA	81 ^c	NA	NA	NA
Dibenzofuran	NA	NA	290,000	NA	NA	NA	NA	NA	NA
Diethylphthalate	NA	170,000	49,000,000	NA	NA	NA	NA	NA	NA
Di-n-Butylphthalate	8,000,000	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	1,900,000	1,900,000	2,300,000	NA	NA	2700	NA	NA	NA
Fluorene	NA	240,000	2,600	NA	NA	59	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	9,000	620	NA	NA	200	NA	NA	NA
Isophorone	NA	2,600	510,000	NA	NA	NA	NA	NA	NA
Naphthalene	30,000	38,000	56,000	NA	NA	25	NA	NA	NA
Naphthalene, 1-methyl-	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene, 2-methyl-	NA	NA	NA	NA	NA	NA	NA	NA	NA

Key is at the end of the table.

Table 3-1 (CONTINUED)

**SOIL ANALYTICAL DATA SUMMARY
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA**

	Standards			South Tamgas Harbor Dock - Dock and Pipeline (Site 43A)	USCG Housing (Site 44)	USCG Seaplane Base (Site 45A)	USCG Fire Station/ Post Exchange (Site 46)	Gasoline Station (Site 49)	Fire Truck Hut (Site 50)
	MIC	ADEC	PRG						
Semivolatile Organic Compounds (µg/kg)									
Pentachlorophenol	NA	9	3,000	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	1000	NA	NA	NA
Phenol	NA	60,000	37,000	NA	NA	NA	NA	NA	NA
Pyrene	1,400,000	1,400,000	2,300,000	89	NA	2900	NA	NA	NA
Retene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Petroleum Constituents (mg/kg)									
GRO	100	260	NA	NA	NA	5.8	NA	340 ^{ab}	NA
DRO	200	230	NA	740 ^{ab}	1300 ^{ab}	NA	NA	27000 ^{ab}	1500 ^{ab}
RRO	200	9,700	NA	35	5200 ^a	NA	NA	120	200
Benzene	0.1	0.02	0.67	NA	NA	NA	NA	NA	NA
Toluene	40	4.8	520	NA	NA	0.092	NA	NA	NA
Ethylbenzene	20	5	230	NA	NA	NA	NA	NA	NA
m,p-Xylenes	20	69	210	NA	NA	NA	NA	1.5	NA
o-Xylene	20	69	210	NA	NA	NA	NA	NA	NA
Dioxins/Furans (ng/kg)									
1,2,3,4,6,7,8-HpCDD	NA	NA	3.9 ^d	NA	NA	NA	NA	NA	NA
1,2,3,4,6,7,8-HpCDF	NA	NA	3.9 ^d	NA	NA	NA	NA	NA	NA
1,2,3,4,7,8-HxCDF	NA	NA	3.9 ^d	NA	NA	NA	NA	NA	NA
1,2,3,6,7,8-HxCDF	NA	NA	3.9 ^d	NA	NA	NA	NA	NA	NA
OCDD	NA	NA	3.9 ^d	NA	NA	NA	NA	NA	NA
Total HpCDD	NA	NA	3.9 ^d	NA	NA	NA	NA	NA	NA
Total HpCDF	NA	NA	3.9 ^d	NA	NA	NA	NA	NA	NA
Total HxCDF	NA	NA	3.9 ^d	NA	NA	NA	NA	NA	NA

Key is at the end of the table.

Table 3-1 (CONTINUED)

**SOIL ANALYTICAL DATA SUMMARY
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA**

	Standards			FAA Storage Yard (Site 51)	FAA Housing Area - POL and Tanks (Site 53A)	Public School (Site 54)	FAA Service Building (Site 55)	PNA/WA Residential Building - Three 80,000- gallon ASTs (Site 56A)
	MIC	ADEC	PRG					
Metals (mg/kg)								
Aluminum	NA	NA	76,000	NA	NA	NA	NA	NA
Antimony	NA	3	31	NA	NA	NA	NA	NA
Arsenic	NA	1.8	22	NA	NA	NA	NA	NA
Barium	982	982	5,400	NA	NA	NA	NA	22.1
Beryllium	NA	1.6	150	NA	NA	NA	NA	NA
Cadmium	4.5	4.5	37	NA	NA	NA	NA	NA
Calcium	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	100	23	210	NA	NA	NA	NA	66 ^b
Cobalt	NA	NA	4,700	NA	NA	NA	NA	NA
Copper	NA	NA	2,900	NA	NA	NA	NA	NA
Iron	NA	NA	23,000	NA	NA	NA	NA	NA
Lead	250	400	400	103	447 ^{abc}	39	424 ^{abc}	460 ^{abc}
Magnesium	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	NA	NA	1,800	NA	NA	NA	NA	NA
Mercury	22	1.24	23	NA	NA	NA	NA	NA
Nickel	NA	78	1,600	NA	NA	NA	NA	NA
Potassium	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	NA	3	390	NA	NA	NA	NA	NA
Silver	40	19	390	NA	NA	NA	NA	NA
Sodium	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	NA	580	550	NA	NA	NA	NA	NA
Zinc	NA	8,100	23,000	NA	NA	NA	NA	NA

Key is at the end of the table.

Table 3-1 (CONTINUED)

**SOIL ANALYTICAL DATA SUMMARY
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA**

	Standards			FAA Storage Yard (Site 51)	FAA Housing Area - POL and Tanks (Site 53A)	Public School (Site 54)	FAA Service Building (Site 55)	PNA/WA Residential Building - Three 80,000- gallon ASTs (Site 56A)
	MIC	ADEC	PRG					
Polychlorinated Biphenyls (µg/kg)								
Aroclor 1260	80	1,000	220	NA	NA	NA	NA	NA
Aroclor 1254	80	1,000	220	NA	NA	NA	NA	NA
Pesticides/Insecticides/Chlorinated Herbicides (µg/kg)								
2,4,5-TP (Silvex)	NA	NA	NA	NA	NA	NA	NA	NA
2,4-DB	NA	NA	490,000	NA	NA	NA	NA	NA
2-Hexanone	NA	NA	NA	NA	NA	NA	NA	NA
Aldrin	30	400	29	NA	NA	NA	NA	NA
Chloramben	NA	NA	NA	NA	NA	NA	NA	NA
DDD	NA	28,000	2,400	NA	NA	NA	NA	NA
DDE	NA	20,000	1,700	NA	NA	NA	NA	NA
DDT	1,700	20,000	1,700	NA	NA	NA	NA	NA
Dichlorprop	NA	NA	690,000	NA	NA	NA	NA	NA
Gamma-Chlordane	NA	3,000	1,600	NA	NA	NA	NA	NA
Volatile Organic Compounds (µg/kg)								
1,1,1-Trichloroethane	NA	900	770,000	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	NA	10	38	NA	NA	NA	NA	NA
1,1-Dichloroethene	NA	30	54	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	480,000	1,700	650,000	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	51,000	NA	5,700	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	6,000	6,000	370,000	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	21,000	NA	21,000	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	NA	NA	13,000	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	700	700	3,400	NA	NA	NA	NA	NA
2-Butanone	48,000,000	NA	NA	NA	NA	NA	NA	480

Key is at the end of the table.

Table 3-1 (CONTINUED)

**SOIL ANALYTICAL DATA SUMMARY
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA**

	Standards			FAA Storage Yard (Site 51)	FAA Housing Area - POL and Tanks (Site 53A)	Public School (Site 54)	FAA Service Building (Site 55)	PNA/WA Residential Building - Three 80,000- gallon ASTs (Site 56A)
	MIC	ADEC	PRG					
Volatile Organic Compounds (µg/kg)								
4-methyl-2-Pentanone	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	9,000	9,000	1,600,000	NA	NA	NA	NA	NA
Benzene	100	20	670	NA	NA	NA	NA	NA
Chlorobenzene	NA	500	225,000	NA	NA	NA	NA	NA
Chloroform	NA	300	240	NA	NA	NA	NA	NA
Dichlorodifluoromethane	NA	NA	94,000	NA	NA	NA	NA	NA
Ethylbenzene	20,000	5,000	230,000	NA	NA	NA	NA	NA
Hexachlorobenzene	280	700	300	NA	NA	NA	NA	NA
Isopropylbenzene	NA	NA	160,000	NA	NA	NA	NA	NA
M,P-Xylene	20,000	69,000	210,000	NA	NA	NA	NA	NA
Methane	NA	NA	NA	NA	NA	NA	NA	NA
Methylene Chloride	8,500	10	8,900	NA	NA	NA	NA	NA
Naphthalene	30,000	38,000	56,000	NA	NA	NA	NA	NA
n-Butylbenzene	NA	NA	140,000	NA	NA	NA	NA	NA
n-Propylbenzene	130,000	NA	140,000	NA	NA	NA	NA	NA
o-Xylene	20,000	69,000	210,000	NA	NA	NA	NA	NA
p-Isopropyltoluene	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	NA	NA	110,000	NA	NA	NA	NA	NA
Tert-butylbenzene	NA	NA	130,000	NA	NA	NA	NA	NA
Tetrachloroethane	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	40,000	4,800	5,200	NA	NA	NA	NA	NA
Trichlorofluoromethane	NA	NA	390,000	NA	NA	NA	NA	NA

Key is at the end of the table.

Table 3-1 (CONTINUED)

SOIL ANALYTICAL DATA SUMMARY
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA

	Standards			FAA Storage Yard (Site 51)	FAA Housing Area - POL and Tanks (Site 53A)	Public School (Site 54)	FAA Service Building (Site 55)	PNA/WA Residential Building - Three 80,000- gallon ASTs (Site 56A)
	MIC	ADEC	PRG					
Semi-volatile Organic Compounds (ug/kg)								
4-Methylphenol	NA	NA	310,000	NA	NA	NA	NA	NA
Acenaphthene	190,000	190,000	3,700,000	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	3,900,000	22,000,000	NA	NA	NA	NA	NA
Benzo(a)anthracene	NA	5,500	620	NA	NA	NA	NA	NA
Benzo(a)pyrene	100	900	62	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	100	9,000	62	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	100	93,000	6,200	NA	NA	NA	NA	NA
Benzoic acid	NA	350,000	100,000	NA	NA	NA	NA	NA
Bis(2-ethylhexyl)phthalate	32,000	490,000	35,000	NA	NA	NA	NA	NA
Butylbenzylphthalate	NA	NA	12,000	NA	NA	NA	NA	NA
Chrysene	NA	550,000	62,000	NA	NA	NA	NA	NA
Dibenzo(a,h)anthracene	NA	900	62	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	290,000	NA	NA	NA	NA	NA
Diethylphthalate	NA	170,000	49,000,000	NA	NA	NA	NA	NA
Di-n-Butylphthalate	8,000,000	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	1,900,000	1,900,000	2,300,000	NA	NA	NA	NA	NA
Fluorene	NA	240,000	2,600	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	9,000	620	NA	NA	NA	NA	NA
Isophorone	NA	2,600	510,000	NA	NA	NA	NA	NA
Naphthalene	30,000	38,000	56,000	NA	NA	NA	NA	NA
Naphthalene, 1-methyl-	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene, 2-methyl-	NA	NA	NA	NA	NA	NA	NA	NA

Key is at the end of the table.

Table 3-1 (CONTINUED)

**SOIL ANALYTICAL DATA SUMMARY
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA**

	Standards			FAA Storage Yard (Site 51)	FAA Housing Area - POL and Tanks (Site 53A)	Public School (Site 54)	FAA Service Building (Site 55)	PNA/WA Residential Building - Three 80,000- gallon ASTs (Site 56A)
	MIC	ADEC	PRG					
Semivolatile Organic Compounds (µg/kg)								
Pentachlorophenol	NA	9	3,000	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	NA	60,000	37,000	NA	NA	NA	NA	NA
Pyrene	1,400,000	1,400,000	2,300,000	NA	NA	NA	NA	NA
Retene	NA	NA	NA	NA	NA	NA	NA	NA
Petroleum Constituents (mg/kg)								
GRO	100	260	NA	NA	NA	620 ^{ab}	NA	NA
DRO	200	230	NA	590 ^{ab}	1800 ^{ab}	90000 ^{ab}	1600 ^{ab}	930 ^{ab}
RRO	200	9,700	NA	36	630 ^a	170	20	320
Benzene	0.1	0.02	0.67	NA	NA	NA	NA	NA
Toluene	40	4.8	520	NA	NA	0.19	NA	0.2
Ethylbenzene	20	5	230	NA	NA	2.1	NA	NA
m,p-Xylenes	20	69	210	NA	NA	12	NA	NA
o-Xylene	20	69	210	NA	NA	NA	NA	NA
Dioxins/Furans (ng/kg)								
1,2,3,4,6,7,8-HpCDD	NA	NA	3.9 ^d	NA	NA	NA	NA	NA
1,2,3,4,6,7,8-HpCDF	NA	NA	3.9 ^d	NA	NA	NA	NA	NA
1,2,3,4,7,8-HxCDF	NA	NA	3.9 ^d	NA	NA	NA	NA	NA
1,2,3,6,7,8-HxCDF	NA	NA	3.9 ^d	NA	NA	NA	NA	NA
OCDD	NA	NA	3.9 ^d	NA	NA	NA	NA	NA
Total HpCDD	NA	NA	3.9 ^d	NA	NA	NA	NA	NA
Total HpCDF	NA	NA	3.9 ^d	NA	NA	NA	NA	NA
Total HxCDF	NA	NA	3.9 ^d	NA	NA	NA	NA	NA

Key is at the end of the table.

Table 3-1 (CONTINUED)

**SOIL ANALYTICAL DATA SUMMARY
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA**

	Standards			Air Warning Center Garrison (Site 59)	Power House (Site 62)	Runway Taxiways and Parking Circles (Site 64)	Runway Fortifications (Site 65)	Weather Bureau Station - near Hangar (Site 67)
	MIC	ADEC	PRG					
Metals (mg/kg)								
Aluminum	NA	NA	76,000	NA	NA	NA	NA	NA
Antimony	NA	3	31	NA	NA	NA	NA	NA
Arsenic	NA	1.8	22	NA	NA	8 ^b	NA	NA
Barium	982	982	5,400	33	NA	NA	56.8	NA
Beryllium	NA	1.6	150	NA	NA	NA	NA	NA
Cadmium	4.5	4.5	37	NA	NA	NA	NA	NA
Calcium	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	100	23	210	NA	NA	120 ^{ab}	19	NA
Cobalt	NA	NA	4,700	NA	NA	NA	NA	NA
Copper	NA	NA	2,900	NA	NA	NA	NA	NA
Iron	NA	NA	23,000	NA	NA	NA	NA	NA
Lead	250	400	400	20	330 ^a	546 ^{abc}	15	169
Magnesium	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	NA	NA	1,800	NA	NA	NA	NA	NA
Mercury	22	1.24	23	NA	NA	NA	NA	NA
Nickel	NA	78	1,600	NA	NA	NA	NA	NA
Potassium	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	NA	3	390	NA	NA	NA	NA	NA
Silver	40	19	390	NA	NA	NA	NA	NA
Sodium	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	NA	580	550	NA	NA	NA	NA	NA
Zinc	NA	8,100	23,000	NA	NA	NA	NA	NA

Key is at the end of the table.

Table 3-1 (CONTINUED)

SOIL ANALYTICAL DATA SUMMARY
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA

	Standards			Air Warning Center Garrison (Site 59)	Power House (Site 62)	Runway Taxiways and Parking Circles (Site 64)	Runway Fortifications (Site 65)	Weather Bureau Station - near Hangar (Site 67)
	MIC	ADEC	PRG					
Polychlorinated Biphenyls (µg/kg)								
Aroclor 1260	80	1,000	220	NA	NA	NA	NA	NA
Aroclor 1254	80	1,000	220	NA	NA	NA	NA	NA
Pesticides/Insecticides/Chlorinated Herbicides (µg/kg)								
2,4,5-TP (Silvex)	NA	NA	NA	NA	NA	NA	NA	NA
2,4-DB	NA	NA	490,000	NA	NA	NA	NA	NA
2-Hexanone	NA	NA	NA	NA	NA	NA	NA	NA
Aldrin	30	400	29	NA	NA	NA	NA	NA
Chloramben	NA	NA	NA	NA	NA	NA	NA	NA
DDD	NA	28,000	2,400	NA	NA	NA	NA	NA
DDE	NA	20,000	1,700	NA	NA	NA	NA	NA
DDT	1,700	20,000	1,700	NA	NA	NA	NA	NA
Dichlorprop	NA	NA	690,000	NA	NA	NA	NA	NA
Gamma-Chlordane	NA	3,000	1,600	NA	NA	NA	NA	NA
Volatile Organic Compounds (µg/kg)								
1,1,1-Trichloroethane	NA	900	770,000	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	NA	10	38	NA	NA	NA	NA	NA
1,1-Dichloroethene	NA	30	54	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	480,000	1,700	650,000	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	51,000	NA	5,700	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	6,000	6,000	370,000	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	21,000	NA	21,000	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	NA	NA	13,000	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	700	700	3,400	NA	NA	NA	NA	NA
2-Butanone	48,000,000	NA	NA	NA	NA	NA	NA	NA

Key is at the end of the table.

Table 3-1 (CONTINUED)

**SOIL ANALYTICAL DATA SUMMARY
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA**

	Standards			Air Warning Center Garrison (Site 59)	Power House (Site 62)	Runway Taxiways and Parking Circles (Site 64)	Runway Fortifications (Site 65)	Weather Bureau Station - near Hangar (Site 67)
	MIC	ADEC	PRG					
Volatile Organic Compounds (µg/kg)								
4-methyl-2-Pentanone	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	9,000	9,000	1,600,000	NA	NA	NA	NA	NA
Benzene	100	20	670	NA	NA	NA	NA	NA
Chlorobenzene	NA	500	225,000	NA	NA	NA	NA	NA
Chloroform	NA	300	240	NA	NA	NA	NA	NA
Dichlorodifluoromethane	NA	NA	94,000	NA	NA	NA	NA	NA
Ethylbenzene	20,000	5,000	230,000	NA	NA	NA	NA	NA
Hexachlorobenzene	280	700	300	NA	NA	NA	NA	NA
Isopropylbenzene	NA	NA	160,000	NA	NA	NA	NA	NA
M,P-Xylene	20,000	69,000	210,000	NA	NA	NA	NA	NA
Methane	NA	NA	NA	NA	NA	NA	NA	NA
Methylene Chloride	8,500	10	8,900	NA	NA	NA	NA	NA
Naphthalene	30,000	38,000	56,000	NA	NA	NA	NA	NA
n-Butylbenzene	NA	NA	140,000	NA	NA	NA	NA	NA
n-Propylbenzene	130,000	NA	140,000	NA	NA	NA	NA	NA
o-Xylene	20,000	69,000	210,000	NA	NA	NA	NA	NA
p-Isopropyltoluene	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	NA	NA	110,000	NA	NA	NA	NA	NA
Tert-butylbenzene	NA	NA	130,000	NA	NA	NA	NA	NA
Tetrachloroethane	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	40,000	4,800	5,200	NA	NA	NA	NA	NA
Trichlorofluoromethane	NA	NA	390,000	NA	NA	NA	NA	NA

Key is at the end of the table.

Table 3-1 (CONTINUED)

**SOIL ANALYTICAL DATA SUMMARY
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA**

	Standards			Air Warning Center Garrison (Site 59)	Power House (Site 62)	Runway Taxiways and Parking Circles (Site 64)	Runway Fortifications (Site 65)	Weather Bureau Station - near Hangar (Site 67)
	MIC	ADEC	PRG					
Semi-volatile Organic Compounds (µg/kg)								
4-Methylphenol	NA	NA	310,000	NA	NA	NA	NA	NA
Acenaphthene	190,000	190,000	3,700,000	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	3,900,000	22,000,000	NA	NA	NA	NA	NA
Benzo(a)anthracene	NA	5,500	620	NA	NA	NA	NA	NA
Benzo(a)pyrene	100	900	62	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	100	9,000	62	690 ^{ac}	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	100	93,000	6,200	890 ^a	NA	NA	NA	NA
Benzoic acid	NA	350,000	100,000	NA	NA	NA	NA	NA
Bis(2-ethylhexyl)phthalate	32,000	490,000	35,000	NA	NA	NA	NA	NA
Butylbenzylphthalate	NA	NA	12,000	NA	NA	NA	NA	NA
Chrysene	NA	550,000	62,000	NA	NA	NA	NA	NA
Dibenzo(a,h)anthracene	NA	900	62	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	290,000	NA	NA	NA	NA	NA
Diethylphthalate	NA	170,000	49,000,000	NA	NA	NA	NA	NA
Di-n-Butylphthalate	8,000,000	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	1,900,000	1,900,000	2,300,000	NA	NA	NA	NA	NA
Fluorene	NA	240,000	2,600	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	9,000	620	NA	NA	NA	NA	NA
Isophorone	NA	2,600	510,000	NA	NA	NA	NA	NA
Naphthalene	30,000	38,000	56,000	NA	NA	NA	NA	NA
Naphthalene, 1-methyl-	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene, 2-methyl-	NA	NA	NA	NA	NA	NA	NA	NA

Key is at the end of the table.

Table 3-1 (CONTINUED)

**SOIL ANALYTICAL DATA SUMMARY
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA**

	Standards			Air Warning Center Garrison (Site 59)	Power House (Site 62)	Runway Taxiways and Parking Circles (Site 64)	Runway Fortifications (Site 65)	Weather Bureau Station - near Hangar (Site 67)
	MIC	ADEC	PRG					
Semi-volatile Organic Compounds (µg/kg)								
Pentachlorophenol	NA	9	3,000	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	NA	60,000	37,000	NA	NA	NA	NA	NA
Pyrene	1,400,000	1,400,000	2,300,000	NA	NA	NA	NA	NA
Retene	NA	NA	NA	NA	NA	NA	NA	NA
Petroleum Constituents (mg/kg)								
GRO	100	260	NA	NA	NA	NA	NA	NA
DRO	200	230	NA	9700 ^{ab}	280000 ^{ab}	29000 ^{ab}	NA	9400 ^{ab}
RRO	200	9,700	NA	2100 ^a	1700 ^a	97000 ^{ab}	200	35000 ^{ab}
Benzene	0.1	0.02	0.67	NA	NA	NA	NA	NA
Toluene	40	4.8	520	NA	NA	NA	NA	NA
Ethylbenzene	20	5	230	NA	NA	NA	NA	NA
m,p-Xylenes	20	69	210	NA	NA	NA	NA	NA
o-Xylene	20	69	210	NA	NA	NA	NA	NA
Dioxins/Furans (ng/kg)								
1,2,3,4,6,7,8-HpCDD	NA	NA	3.9 ^d	NA	NA	NA	NA	NA
1,2,3,4,6,7,8-HpCDF	NA	NA	3.9 ^d	NA	NA	NA	NA	NA
1,2,3,4,7,8-HxCDF	NA	NA	3.9 ^d	NA	NA	NA	NA	NA
1,2,3,6,7,8-HxCDF	NA	NA	3.9 ^d	NA	NA	NA	NA	NA
OCDD	NA	NA	3.9 ^d	NA	NA	NA	NA	NA
Total HpCDD	NA	NA	3.9 ^d	NA	NA	NA	NA	NA
Total HpCDF	NA	NA	3.9 ^d	NA	NA	NA	NA	NA
Total HxCDF	NA	NA	3.9 ^d	NA	NA	NA	NA	NA

Key is at the end of the table.

Table 3-1 (CONTINUED)

SOIL ANALYTICAL DATA SUMMARY
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA

	Standards			USCG Quarters - POL (Site 69A)	USCG Garage - Other (Site 71B)	Hangar Boiler Building (Site 72)	Boiler Building AST (Site 73)	USCG ASTs (Site 74)	Hangar (Site 75)
	MIC	ADEC	PRG						
Metals (mg/kg)									
Aluminum	NA	NA	76,000	NA	10400	17500	NA	NA	12500
Antimony	NA	3	31	NA	NA	NA	NA	NA	NA
Arsenic	NA	1.8	22	NA	15 ^b	27.5 ^{bc}	NA	NA	3.06 ^b
Barium	982	982	5,400	NA	49.5	72.3	NA	NA	209
Beryllium	NA	1.6	150	NA	0.27	0.46	NA	NA	0.31
Cadmium	4.5	4.5	37	NA	3.86	2.23	NA	NA	2.2
Calcium	NA	NA	NA	NA	3590	15100	NA	NA	8270
Chromium	100	23	210	NA	119 ^{ab}	213 ^{abc}	NA	NA	129 ^{ab}
Cobalt	NA	NA	4,700	NA	53.2	78.6	NA	NA	79.3
Copper	NA	NA	2,900	NA	75.4	491	NA	NA	70.8
Iron	NA	NA	23,000	NA	40500 ^c	200000 ^c	NA	NA	45400 ^c
Lead	250	400	400	NA	316 ^a	364 ^a	574 ^{abc}	4080 ^{abc}	251 ^a
Magnesium	NA	NA	NA	NA	106000	142000	NA	NA	143000
Manganese	NA	NA	1,800	NA	622	1070	NA	NA	802
Mercury	22	1.24	23	NA	0.801	1.25 ^b	NA	NA	0.161
Nickel	NA	78	1,600	NA	452 ^b	641 ^b	NA	NA	729 ^b
Potassium	NA	NA	NA	NA	874	1030	NA	NA	2100
Selenium	NA	3	390	NA	NA	2.6	NA	NA	0.67
Silver	40	19	390	NA	NA	NA	NA	NA	NA
Sodium	NA	NA	NA	NA	210	331	NA	NA	227
Vanadium	NA	580	550	NA	40.3	31.6	NA	NA	32.2
Zinc	NA	8,100	23,000	NA	585	3010	NA	NA	672

Key is at the end of the table.

Table 3-1 (CONTINUED)

**SOIL ANALYTICAL DATA SUMMARY
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA**

	Standards			USCG Quarters - POL (Site 69A)	USCG Garage - Other (Site 71B)	Hangar Boiler Building (Site 72)	Boiler Building AST (Site 73)	USCG ASTs (Site 74)	Hangar (Site 75)
	MIC	ADEC	PRG						
Polychlorinated Biphenyls (µg/kg)									
Aroclor 1260	80	1,000	220	NA	22000 ^{abc}	12000 ^{abc}	NA	NA	2000 ^{abc}
Aroclor 1254	80	1,000	220	NA	200 ^a	240 ^{ac}	NA	NA	120 ^a
Pesticides/Insecticides/Chlorinated Herbicides (µg/kg)									
2,4,5-TP (Silvex)	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-DB	NA	NA	490,000	NA	NA	NA	NA	NA	NA
2-Hexanone	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aldrin	30	400	29	NA	NA	NA	NA	NA	NA
Chloramben	NA	NA	NA	NA	NA	NA	NA	NA	NA
DDD	NA	28,000	2,400	NA	7.4	200	28	NA	3300 ^c
DDE	NA	20,000	1,700	NA	NA	26	NA	NA	630
DDT	1,700	20,000	1,700	NA	57	180	119	NA	5200 ^{ac}
Dichlorprop	NA	NA	690,000	NA	NA	NA	NA	NA	NA
Gamma-Chlordane	NA	3,000	1,600	NA	NA	NA	NA	NA	19
Volatile Organic Compounds (µg/kg)									
1,1,1-Trichloroethane	NA	900	770,000	NA	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	NA	10	38	NA	NA	NA	NA	NA	NA
1,1-Dichloroethene	NA	30	54	NA	NA	NA	1326 ^{bc}	1423 ^{bc}	NA
1,2,4-Trichlorobenzene	480,000	1,700	650,000	NA	NA	57.3	NA	NA	NA
1,2,4-Trimethylbenzene	51,000	NA	5,700	NA	NA	496	NA	NA	NA
1,2-Dichlorobenzene	6,000	6,000	370,000	NA	NA	NA	NA	820	NA
1,3,5-Trimethylbenzene	21,000	NA	21,000	NA	NA	365	NA	NA	NA
1,3-Dichlorobenzene	NA	NA	13,000	NA	NA	NA	NA	284	NA
1,4-Dichlorobenzene	700	700	3,400	NA	NA	NA	NA	NA	NA
2-Butanone	48,000,000	NA	NA	NA	29.8	NA	NA	NA	NA

Key is at the end of the table.

Table 3-1 (CONTINUED)

SOIL ANALYTICAL DATA SUMMARY
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA

	Standards			USCG Quarters - POL (Site 69A)	USCG Garage - Other (Site 71B)	Hangar Boiler Building (Site 72)	Boiler Building AST (Site 73)	USCG ASTs (Site 74)	Hangar (Site 75)
	MIC	ADEC	PRG						
Volatile Organic Compounds (µg/kg)									
4-methyl-2-Pentanone	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	9,000	9,000	1,600,000	NA	NA	NA	NA	NA	NA
Benzene	100	20	670	NA	NA	NA	138 ^{ab}	126 ^{ab}	NA
Chlorobenzene	NA	500	225,000	NA	NA	NA	NA	NA	NA
Chloroform	NA	300	240	NA	NA	NA	NA	NA	NA
Dichlorodifluoromethane	NA	NA	94,000	NA	NA	NA	NA	NA	NA
Ethylbenzene	20,000	5,000	230,000	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	280	700	300	NA	NA	NA	NA	NA	NA
Isopropylbenzene	NA	NA	160,000	NA	NA	NA	NA	NA	NA
M,P-Xylene	20,000	69,000	210,000	NA	NA	16.5	218	190	NA
Methane	NA	NA	NA	NA	NA	NA	2705	2776	NA
Methylene Chloride	8,500	10	8,900	NA	NA	NA	NA	NA	NA
Naphthalene	30,000	38,000	56,000	NA	NA	332	NA	NA	NA
n-Butylbenzene	NA	NA	140,000	NA	NA	316	NA	NA	NA
n-Propylbenzene	130,000	NA	140,000	NA	NA	NA	NA	NA	NA
o-Xylene	20,000	69,000	210,000	NA	NA	10.9	NA	NA	NA
p-Isopropyltoluene	NA	NA	NA	NA	NA	83.2	NA	NA	NA
sec-Butylbenzene	NA	NA	110,000	NA	NA	NA	NA	NA	NA
Tert-butylbenzene	NA	NA	130,000	NA	NA	NA	NA	NA	NA
Tetrachloroethane	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	40,000	4,800	5,200	NA	NA	NA	421	303	NA
Trichlorofluoromethane	NA	NA	390,000	NA	NA	NA	NA	NA	NA

Key is at the end of the table.

Table 3-1 (CONTINUED)

**SOIL ANALYTICAL DATA SUMMARY
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA**

	Standards			USCG Quarters - POL (Site 69A)	USCG Garage - Other (Site 71B)	Hangar Boiler Building (Site 72)	Boiler Building AST (Site 73)	USCG ASTs (Site 74)	Hangar (Site 75)
	MIC	ADEC	PRG						
Semivolatile Organic Compounds (µg/kg)									
4-Methylphenol	NA	NA	310,000	NA	NA	NA	NA	NA	NA
Acenaphthene	190,000	190,000	3,700,000	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	3,900,000	22,000,000	NA	41	NA	NA	NA	NA
Benzo(a)anthracene	NA	5,500	620	NA	NA	196	NA	NA	NA
Benzo(a)pyrene	100	900	62	NA	113 ^{ac}	94.5 ^c	NA	NA	NA
Benzo(b)fluoranthene	100	9,000	62	NA	172 ^{ac}	490 ^{ac}	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	108	102	NA	NA	NA
Benzo(k)fluoranthene	100	93,000	6,200	NA	63.5	202 ^a	NA	NA	NA
Benzoic acid	NA	350,000	100,000	NA	NA	1910	NA	NA	NA
Bis(2-ethylhexyl)phthalate	32,000	490,000	35,000	NA	1140	NA	NA	NA	NA
Butylbenzylphthalate	NA	NA	12,000	NA	NA	NA	NA	NA	NA
Chrysene	NA	550,000	62,000	NA	113	424	NA	NA	NA
Dibenzo(a,b)anthracene	NA	900	62	NA	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	290,000	NA	NA	NA	NA	NA	NA
Diethylphthalate	NA	170,000	49,000,000	NA	NA	NA	NA	NA	NA
Di-n-Butylphthalate	8,000,000	NA	NA	NA	NA	1070	NA	NA	NA
Fluoranthene	1,900,000	1,900,000	2,300,000	NA	186	59.7	NA	NA	NA
Fluorene	NA	240,000	2,600	NA	NA	9590 ^c	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	9,000	620	NA	268	356	NA	NA	NA
Isophorone	NA	2,600	510,000	NA	NA	798	NA	NA	NA
Naphthalene	30,000	38,000	56,000	NA	NA	NA	NA	NA	NA
Naphthalene, 1-methyl-	NA	NA	NA	NA	NA	22300	NA	NA	NA
Naphthalene, 2-methyl-	NA	NA	NA	NA	NA	18100	NA	NA	NA

Key is at the end of the table.

Table 3-1 (CONTINUED)

SOIL ANALYTICAL DATA SUMMARY
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA

	Standards			USCG Quarters - POL (Site 69A)	USCG Garage - Other (Site 71B)	Hangar Boiler Building (Site 72)	Boiler Building AST (Site 73)	USCG ASTs (Site 74)	Hangar (Site 75)
	MIC	ADEC	PRG						
Semivolatile Organic Compounds (µg/kg)									
Pentachlorophenol	NA	9	3,000	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	156	7350	NA	NA	NA	NA
Phenol	NA	60,000	37,000	NA	NA	NA	NA	NA	NA
Pyrene	1,400,000	1,400,000	2,300,000	NA	168	485	NA	NA	NA
Retene	NA	NA	NA	NA	NA	331	NA	NA	NA
Petroleum Constituents (mg/kg)									
GRO	100	260	NA	NA	NA	8.1	NA	1100 ^{ab}	NA
DRO	200	230	NA	2400 ^{ab}	21000 ^{ab}	1200 ^{ab}	NA	48000 ^{ab}	NA
RRO	200	9,700	NA	6300 ^a	3800 ^a	NA	NA	34	NA
Benzene	0.1	0.02	0.67	NA	NA	NA	NA	NA	NA
Toluene	40	4.8	520	NA	NA	NA	NA	NA	NA
Ethylbenzene	20	5	230	NA	NA	NA	NA	3	NA
m,p-Xylenes	20	69	210	NA	NA	NA	NA	7.9	NA
o-Xylene	20	69	210	NA	0.12	NA	NA	NA	NA
Dioxins/Furans (ng/kg)									
1,2,3,4,6,7,8-HpCDD	NA	NA	3.9 ^d	NA	NA	NA	NA	NA	NA
1,2,3,4,6,7,8-HpCDF	NA	NA	3.9 ^d	NA	NA	NA	NA	NA	NA
1,2,3,4,7,8-HxCDF	NA	NA	3.9 ^d	NA	NA	NA	NA	NA	NA
1,2,3,6,7,8-HxCDF	NA	NA	3.9 ^d	NA	NA	NA	NA	NA	NA
OCDD	NA	NA	3.9 ^d	NA	NA	NA	NA	NA	NA
Total HpCDD	NA	NA	3.9 ^d	NA	NA	NA	NA	NA	NA
Total HpCDF	NA	NA	3.9 ^d	NA	NA	NA	NA	NA	NA
Total HxCDF	NA	NA	3.9 ^d	NA	NA	NA	NA	NA	NA

Key is at the end of the table.

Table 3-1 (CONTINUED)

SOIL ANALYTICAL DATA SUMMARY
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA

	Standards			Trailer (Former MoGas - Gas UST Service Island; Site 76)	PNA/WA Terminal (Site 77)	Air Traffic Control Tower (Site 78)	Annette Inn Auxiliary Area (Site 83)	Tropospheric Relay Station (Site 85)
	MIC	ADEC	PRG					
Metals (mg/kg)								
Aluminum	NA	NA	76,000	13200	NA	8730	NA	NA
Antimony	NA	3	31	NA	NA	NA	NA	NA
Arsenic	NA	1.8	22	4.09 ^b	NA	5.95 ^b	NA	NA
Barium	982	982	5,400	41.2	NA	60.9	NA	44
Beryllium	NA	1.6	150	0.27	NA	0.25	NA	NA
Cadmium	4.5	4.5	37	NA	NA	4.19	NA	6.2 ^{ab}
Calcium	NA	NA	NA	3020	NA	2960	NA	NA
Chromium	100	23	210	166 ^{ab}	NA	217 ^{abc}	NA	24.8 ^b
Cobalt	NA	NA	4,700	74.9	NA	81.3	NA	NA
Copper	NA	NA	2,900	30.2	NA	101	NA	NA
Iron	NA	NA	23,000	45000 ^c	NA	49700 ^c	NA	NA
Lead	250	400	400	93.8	446 ^{abc}	2120 ^{abc}	169	1080 ^{abc}
Magnesium	NA	NA	NA	148000	NA	168000	NA	NA
Manganese	NA	NA	1,800	777	NA	800	NA	NA
Mercury	22	1.24	23	0.023	NA	0.912	NA	0.1
Nickel	NA	78	1,600	358 ^b	NA	729 ^b	NA	NA
Potassium	NA	NA	NA	775	NA	924	NA	NA
Selenium	NA	3	390	NA	NA	0.36	NA	NA
Silver	40	19	390	NA	NA	NA	NA	0.4
Sodium	NA	NA	NA	281	NA	175	NA	NA
Vanadium	NA	580	550	24.6	NA	30.6	NA	NA
Zinc	NA	8,100	23,000	102	NA	1250	NA	NA

Key is at the end of the table.

Table 3-1 (CONTINUED)

**SOIL ANALYTICAL DATA SUMMARY
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA**

	Standards			Trailer (Former MoGas - Gas UST Service Island; Site 76)	PNA/WA Terminal (Site 77)	Air Traffic Control Tower (Site 78)	Annette Inn Auxiliary Area (Site 83)	Tropospheric Relay Station (Site 85)
	MIC	ADEC	PRG					
Polychlorinated Biphenyls (µg/kg)								
Aroclor 1260	80	1,000	220	NA	NA	212 ^a	NA	31000000 ^{abc}
Aroclor 1254	80	1,000	220	NA	NA	30	NA	NA
Pesticides/Insecticides/Chlorinated Herbicides (µg/kg)								
2,4,5-TP (Silvex)	NA	NA	NA	NA	NA	NA	NA	NA
2,4-DB	NA	NA	490,000	NA	NA	NA	NA	NA
2-Hexanone	NA	NA	NA	NA	NA	NA	NA	NA
Aldrin	30	400	29	NA	NA	NA	NA	NA
Chloramben	NA	NA	NA	NA	NA	NA	NA	NA
DDD	NA	28,000	2,400	NA	NA	NA	NA	NA
DDE	NA	20,000	1,700	NA	NA	NA	NA	NA
DDT	1,700	20,000	1,700	NA	NA	13	NA	NA
Dichlorprop	NA	NA	690,000	NA	NA	NA	NA	NA
Gamma-Chlordane	NA	3,000	1,600	NA	NA	NA	NA	NA
Volatile Organic Compounds (µg/kg)								
1,1,1-Trichloroethane	NA	900	770,000	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	NA	10	38	NA	NA	NA	NA	NA
1,1-Dichloroethene	NA	30	54	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	480,000	1,700	650,000	NA	NA	NA	NA	1900000 ^{abc}
1,2,4-Trimethylbenzene	51,000	NA	5,700	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	6,000	6,000	370,000	NA	NA	NA	NA	3400
1,3,5-Trimethylbenzene	21,000	NA	21,000	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	NA	NA	13,000	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	700	700	3,400	NA	NA	NA	NA	2400 ^{ab}
2-Butanone	48,000,000	NA	NA	NA	NA	NA	NA	NA

Key is at the end of the table.

Table 3-1 (CONTINUED)

**SOIL ANALYTICAL DATA SUMMARY
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA**

	Standards			Trailer (Former MoGas - Gas UST Service Island; Site 76)	PNA/WA Terminal (Site 77)	Air Traffic Control Tower (Site 78)	Annette Inn Auxiliary Area (Site 83)	Tropospheric Relay Station (Site 85)
	MIC	ADEC	PRG					
Volatile Organic Compounds (µg/kg)								
4-methyl-2-Pentanone	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	9,000	9,000	1,600,000	NA	NA	NA	NA	NA
Benzene	100	20	670	NA	NA	NA	NA	NA
Chlorobenzene	NA	500	225,000	NA	NA	NA	NA	NA
Chloroform	NA	300	240	NA	NA	NA	NA	NA
Dichlorodifluoromethane	NA	NA	94,000	NA	NA	NA	NA	NA
Ethylbenzene	20,000	5,000	230,000	NA	NA	NA	NA	NA
Hexachlorobenzene	280	700	300	NA	NA	NA	NA	3700 ^{abc}
Isopropylbenzene	NA	NA	160,000	NA	NA	NA	NA	NA
M,P-Xylene	20,000	69,000	210,000	NA	NA	NA	NA	NA
Methane	NA	NA	NA	NA	NA	NA	NA	NA
Methylene Chloride	8,500	10	8,900	NA	NA	NA	NA	NA
Naphthalene	30,000	38,000	56,000	NA	NA	NA	NA	NA
n-Butylbenzene	NA	NA	140,000	NA	NA	NA	NA	NA
n-Propylbenzene	130,000	NA	140,000	NA	NA	NA	NA	NA
o-Xylene	20,000	69,000	210,000	NA	NA	NA	NA	NA
p-Isopropyltoluene	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	NA	NA	110,000	NA	NA	NA	NA	NA
Tert-butylbenzene	NA	NA	130,000	NA	NA	NA	NA	NA
Tetrachloroethane	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	40,000	4,800	5,200	NA	NA	NA	NA	NA
Trichlorofluoromethane	NA	NA	390,000	NA	NA	NA	NA	NA

Key is at the end of the table.

Table 3-1 (CONTINUED)

**SOIL ANALYTICAL DATA SUMMARY
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA**

	Standards			Trailer (Former MoGas - Gas UST Service Island; Site 76)	PNA/WA Terminal (Site 77)	Air Traffic Control Tower (Site 78)	Annette Inn Auxiliary Area (Site 83)	Tropospheric Relay Station (Site 85)
	MIC	ADEC	PRG					
Semi-volatile Organic Compounds (µg/kg)								
4-Methylphenol	NA	NA	310,000	NA	NA	NA	NA	NA
Acenaphthene	190,000	190,000	3,700,000	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	3,900,000	22,000,000	NA	NA	NA	NA	NA
Benzo(a)anthracene	NA	5,500	620	NA	NA	NA	NA	NA
Benzo(a)pyrene	100	900	62	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	100	9,000	62	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	100	93,000	6,200	NA	NA	NA	NA	NA
Benzoic acid	NA	350,000	100,000	NA	NA	NA	NA	NA
Bis(2-ethylhexyl)phthalate	32,000	490,000	35,000	NA	NA	NA	NA	NA
Butylbenzylphthalate	NA	NA	12,000	NA	NA	NA	NA	85
Chrysene	NA	550,000	62,000	NA	NA	NA	NA	NA
Dibenzo(a,h)anthracene	NA	900	62	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	290,000	NA	NA	NA	NA	NA
Diethylphthalate	NA	170,000	49,000,000	NA	NA	NA	NA	NA
Di-n-Butylphthalate	8,000,000	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	1,900,000	1,900,000	2,300,000	NA	NA	NA	NA	NA
Fluorene	NA	240,000	2,600	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	9,000	620	NA	NA	NA	NA	NA
Isophorone	NA	2,600	510,000	NA	NA	NA	NA	NA
Naphthalene	30,000	38,000	56,000	NA	NA	NA	NA	NA
Naphthalene, 1-methyl-	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene, 2-methyl-	NA	NA	NA	75.1	NA	NA	NA	NA

Key is at the end of the table.

Table 3-1 (CONTINUED)

**SOIL ANALYTICAL DATA SUMMARY
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA**

	Standards			Trailer (Former MoGas - Gas UST Service Island; Site 76)	PNA/WA Terminal (Site 77)	Air Traffic Control Tower (Site 78)	Annette Inn Auxiliary Area (Site 83)	Tropospheric Relay Station (Site 85)
	MIC	ADEC	PRG					
Semivolatile Organic Compounds (µg/kg)								
Pentachlorophenol	NA	9	3,000	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	NA	60,000	37,000	NA	NA	NA	NA	NA
Pyrene	1,400,000	1,400,000	2,300,000	NA	NA	NA	NA	NA
Retene	NA	NA	NA	NA	NA	NA	NA	NA
Petroleum Constituents (mg/kg)								
GRO	100	260	NA	8.4	13000 ^{ab}	1.1	NA	140 ^a
DRO	200	230	NA	150	83000 ^{ab}	1700 ^{ab}	NA	99000 ^{ab}
RRO	200	9,700	NA	680 ^a	7100 ^a	2400 ^a	13	3200 ^a
Benzene	0.1	0.02	0.67	NA	NA	NA	NA	NA
Toluene	40	4.8	520	0.064	0.24	NA	NA	NA
Ethylbenzene	20	5	230	NA	0.27	NA	NA	NA
m,p-Xylenes	20	69	210	0.11	0.69	NA	NA	NA
o-Xylene	20	69	210	NA	0.77	NA	NA	NA
Dioxins/Furans (ng/kg)								
1,2,3,4,6,7,8-HpCDD	NA	NA	3.9 ^d	NA	NA	NA	NA	NA
1,2,3,4,6,7,8-HpCDF	NA	NA	3.9 ^d	NA	NA	NA	NA	NA
1,2,3,4,7,8-HxCDF	NA	NA	3.9 ^d	NA	NA	NA	NA	NA
1,2,3,6,7,8-HxCDF	NA	NA	3.9 ^d	NA	NA	NA	NA	NA
OCDD	NA	NA	3.9 ^d	NA	NA	NA	NA	NA
Total HpCDD	NA	NA	3.9 ^d	NA	NA	NA	NA	NA
Total HpCDF	NA	NA	3.9 ^d	NA	NA	NA	NA	NA
Total HxCDF	NA	NA	3.9 ^d	NA	NA	NA	NA	NA

Key is on the next page.

Source: CH2 2000, DOWL 1999, E&E 1990, E&E 1992, E&E 1995a, E&E 1999, JEG 2000c, and REI 1998b.

Note: Data represent the maximum detected concentration of a given contaminant at a particular site. If data are not presented for a specific contaminant, then the data were either not available or have never been analyzed.

^a Exceeds Metlakatla Indian Community Soil Cleanup Standards.

^b Exceeds State of Alaska Soil Cleanup Standards.

^c Exceeds Environmental Protection Agency, Region 9, Preliminary Remediation Goals.

^d Environmental Protection Agency, Region 9, Preliminary Remediation Goal for 2,3,7,8-TCDD used for comparison.

Key:

ADEC	= Alaska Department of Environmental Conservation.
AST	= Aboveground storage tank.
BIA	= Bureau of Indian Affairs.
CH2	= CH2M Hill
DB	= Dichlorophenoxybutric Acid.
DDD	= Dichlorodiphenyldichloroethane.
DDE	= Dichlorodiphenyldichloroethylene.
DDT	= Dichlorodiphenyltrichloroethane.
DOWL	= DOWL Engineers.
DRO	= Diesel-range organics.
E & E	= Ecology and Environment, Inc.
FAA	= Federal Aviation Administration.
GRO	= Gasoline-range organics.
HpCDD	= Heptachlorodibenzo-p-dioxin.
HpCDF	= Heptachlorodibenzofuran.
HxCDF	= Hexachlorodibenzofuran.
JEG	= Jacobs Engineering Group.
µg/kg	= Micrograms per kilogram.
mg/kg	= Milligrams per kilogram.
MIC	= Metlakatla Indian Community.
NA	= Not analyzed.
ng/kg	= Nanograms per kilogram.
OCDD	= Octachlorodibenzo-p-dioxin.
PNA/WA	= Pacific Northern Airlines/Western Airlines.
POL	= Petroleum, oil, and lubricants.
PRG	= Preliminary remediation goal.
REI	= Ridoifi Engineers, Inc.
RRO	= Residual Range Organics.
TCDD	= Tetrachlorodibenzo-p-dioxin.
TP	= Dichlorophenoxypropionic acid.
USCG	= United States Coast Guard.
UST	= Underground storage tank.
VORTAC	= Very High Frequency Omirange Station/Tactical Air Navigation.

Table 3-2

GROUNDWATER ANALYTICAL DATA SUMMARY
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA

	Standards			Water Treatment Plant (Site 1)	Power Generation Plant (Site 9)	Automobile Landfill (Site 10)	White Alice Station (Site 15)	Main Hospital Area (Site 18)	Runway Taxiways and Parking Circles (Site 64)	Hangar (Site 75)
	MIC	ADEC	PRG							
Metals (µg/L)										
Aluminum	NA	NA	36,000	NA	77	NA	37	NA	NA	112
Antimony	NA	6	15	NA	NA	NA	0.94	NA	NA	1.6
Arsenic	NA	50	0.045	8 ^c	0.29 ^c	4 ^c	11.7 ^c	NA	4 ^c	1.1 ^c
Barium	1,000	2,000	2,600	NA	26	NA	37.5	NA	NA	33.8
Cadmium	2.2	5	18	9 ^{ab}	0.2	NA	0.077	NA	NA	0.045
Calcium	NA	NA	NA	NA	5470	NA	5300	NA	NA	11900
Chromium	100	100	110	2540 ^{abc}	NA	435 ^{abc}	NA	NA	444 ^{abc}	NA
Cobalt	NA	NA	2,200	NA	0.72	NA	1.31	NA	NA	1.3
Copper	NA	1,300	1,400	NA	2.8	NA	14.1	NA	NA	21.9
Iron	NA	NA	11,000	NA	225	NA	2840	488	NA	114
Lead	2.5	15	NA	700 ^{ab}	2.73 ^{ab}	116 ^{ab}	0.51	169 ^{ab}	94 ^{ab}	1.21
Magnesium	NA	NA	NA	NA	45800	NA	18200	NA	NA	33300
Manganese	NA	NA	880	NA	54.1	NA	197	NA	NA	35.6
Mercury	0.05	2	11	0.4 ^a	NA	NA	NA	NA	NA	NA
Nickel	NA	100	730	NA	5.32	NA	15.7	NA	NA	9.57
Potassium	NA	NA	NA	NA	2410	NA	1800	NA	NA	2850
Silver	3.4	180	180	NA	NA	NA	NA	NA	NA	0.034
Sodium	NA	NA	NA	NA	3770	NA	4270	NA	NA	8040
Vanadium	NA	260	260	NA	0.5	NA	4.38	NA	NA	0.56
Zinc	NA	11,000	11,000	NA	12.5	NA	19.6	NA	NA	10.9
Volatile Organic Compounds (µg/L)										
I,1-Dichloroethane	NA	3,650	810	NA	2.3	NA	NA	NA	NA	NA
	NA	3,650	610	NA	4.7	NA	38.6	NA	NA	NA
	NA	NA	12	NA	15.7 ^c	NA	29.7 ^c	NA	NA	NA
	NA	NA	12	NA	3.4	NA	4.3	NA	NA	NA

Key is at the end of the table.

Table 3-2 (CONTINUED)

GROUNDWATER ANALYTICAL DATA SUMMARY
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA

	Standards		Water Treatment Plant (Site 1)	Power Generation Plant (Site 9)	Automobile Landfill (Site 10)	White Alice Station (Site 15)	Main Hospital Area (Site 18)	Runway Taxiways and Parking Circles (Site 64)	Hangar (Site 75)
	MIC	ADEC PRG							
Volatile Organic Compounds (µg/L)									
Ethylbenzene	700	700	NA	1.9	NA	3.6	NA	NA	NA
Isopropylbenzene	NA	NA	NA	1.1	NA	2	NA	NA	NA
MP-Xylene	10,000	1,400	NA	4.9	NA	7.7	NA	NA	NA
Naphthalene	NA	1,460	NA	15 ^c	NA	27.2 ^c	NA	NA	NA
n-Butylbenzene	NA	NA	NA	NA	NA	2	NA	NA	NA
n-Propylbenzene	NA	NA	NA	1.3	NA	2.3	NA	NA	NA
o-Xylene	10,000	1,400	NA	1.2	NA	2.8	NA	NA	NA
p-Isopropyltoluene	NA	NA	NA	1.2	NA	2.5	NA	NA	NA
sec-Butylbenzene	NA	NA	NA	NA	NA	1.8	NA	NA	NA
Toluene	1,000	1,000	NA	1.6	NA	1.2	NA	NA	NA
Semivolatile Organic Compounds (µg/L)									
2,6-Dinitrotoluene	NA	1.25	NA	1.3 ^b	NA	NA	NA	NA	NA
Acenaphthene	1,200	2,200	NA	0.5	NA	3.5	NA	NA	NA
Benzo(a)pyrene	0.0044	0.2	0.02 ^{a,c}	NA	NA	NA	0.2 ^{a,c}	0.05 ^{a,c}	NA
Benzo(b)fluoranthene	0.0044	1.0	0.01 ^a	NA	NA	NA	0.1 ^a	0.07 ^a	NA
Benzo(k)fluoranthene	0.0044	10	NA	NA	NA	NA	0.1 ^a	0.06 ^a	NA
Dibenzofuran	NA	NA	NA	NA	NA	1	NA	NA	NA
Di-n-Butylphthalate	2,700	3,650	NA	0.55	NA	NA	NA	NA	NA
Fluorene	NA	1,460	NA	1	NA	6.4	NA	NA	NA
Naphthalene	NA	1,460	NA	9.7 ^c	NA	19 ^c	NA	NA	NA
Naphthalene, 1-methyl-	NA	NA	NA	17.5	NA	115	NA	NA	NA
Naphthalene, 2-methyl-	NA	NA	NA	15.1	NA	134	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	1.2	NA	NA	NA

Key is at the end of the table.

Table 3-2 (CONTINUED)

**GROUNDWATER ANALYTICAL DATA SUMMARY
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA**

	Standards			Water Treatment Plant (Site 1)	Power Generation Plant (Site 9)	Automobile Landfill (Site 10)	White Alice Station (Site 15)	Main Hospital Area (Site 18)	Runway Taxiways and Parking Circles (Site 64)	Hangar (Site 75)
	MIC	ADEC	PRG							
Petroleum Constituents (mg/L)										
GRO	1	1.3	NA	NA	0.054	NA	0.081	NA	NA	NA
DRO	1	1.5	NA	21.2 ^{ab}	2.7 ^{ab}	NA	2.7 ^{ab}	390 ^{ab}	NA	NA
RRO	1	1.1	NA	4.1 ^{ab}	NA	2.9 ^{ab}	NA	12 ^{ab}	2.6 ^{ab}	NA
Ethylbenzene	0.7	0.7	1.3	NA	0.0016	NA	0.0024	NA	NA	NA
Toluene	10	10	0.72	NA	NA	NA	0.0014	NA	NA	NA
m,p-Xylenes	NA	10	1.4	NA	0.0046	NA	0.0061	NA	NA	NA
o-Xylene	NA	10	1.4	NA	0.0011	NA	0.0022	NA	NA	NA

Source: E & E 1999 and JEG 2000c.

Note: Data represent the maximum detected concentration of a given contaminant at a particular site. If data are not presented for a specific contaminant, then the data were either not available or have never been analyzed.

^a Exceeds Metlakatla Indian Community Groundwater Cleanup Standards.^b Exceeds State of Alaska Groundwater Cleanup Standards.^c Exceeds Environmental Protection Agency, Region 9, Preliminary Remediation Goals.

Key:

ADEC = Alaska Department of Environmental Conservation.

DRO = Diesel-range organics.

E & E = Ecology and Environment, Inc.

GRO = Gasoline-range organics.

JEG = Jacobs Engineering Group.

µg/L = Micrograms per liter.

mg/L = Milligrams per liter.

MIC = Metlakatla Indian Community.

PRG = Preliminary remediation goal.

RRO = Residual-range organics.

Table 3-3

**SEDIMENT ANALYTICAL DATA SUMMARY
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA**

	NOAA Standards ^a	Water Treatment Plant (Site 1)	Power Generation Plant (Site 9)	Automobile Landfill (Site 10)	White Alice Station (Site 15)	Main Hospital Area (Site 18)	Non-Directional Beacon (Site 19)
Metals (mg/kg)							
Aluminum	25,500,000	NA	13,800	NA	10,100	NA	10,200
Antimony	3	NA	NA	NA	4.7	NA	NA
Arsenic	5.9	NA	14	NA	4.1	NA	1.3
Barium	NA	NA	202	NA	146	24	75
Beryllium	NA	NA	0.26	NA	0.34	NA	0.21
Cadmium	0.6	NA	24.1	NA	8.67	NA	NA
Calcium	NA	NA	10,100	NA	13,600	NA	1,650
Chromium	36.3	281	216	104	110	7	8.4
Cobalt	NA	NA	119	NA	35	NA	10
Copper	28	NA	536	NA	358	NA	11
Iron	40,000,000	NA	70,300	NA	16,200	NA	18,300
Lead	35	NA	298	236	338	3	10
Magnesium	NA	NA	174,000	NA	17,500	NA	7,880
Manganese	630	NA	1,180	NA	151	NA	253
Mercury	0.17	NA	0.701	NA	4	NA	NA
Nickel	19.5	NA	685	NA	192	NA	33
Potassium	NA	NA	3,240	NA	942	NA	3,090
Selenium	NA	NA	0.89	NA	1.2	NA	NA
Silver	4.5	NA	NA	2	NA	NA	NA
Sodium	NA	NA	812	NA	356	NA	NA
Vanadium	NA	NA	35	NA	73	NA	39
Zinc	98	NA	1,440	NA	1,110	NA	53
Polychlorinated Biphenyls (µg/kg)							
Aroclor 1260	26	NA	250	NA	330	NA	NA
Aroclor 1254	26	NA	770	NA	290	NA	NA
Aroclor 1242	26	NA	NA	NA	NA	NA	NA

Key is at the end of the table.

Table 3-3 (CONTINUED)

SEDIMENT ANALYTICAL DATA SUMMARY
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA

	NOAA Standards ^a	Water Treatment Plant (Site 1)	Power Generation Plant (Site 9)	Automobile Landfill (Site 10)	White Alice Station (Site 15)	Main Hospital Area (Site 18)	Non-Directional Beacon (Site 19)
Pesticides/Insecticides (µg/kg)							
DDT	50	NA	14	NA	NA	NA	NA
DDD	1.22	NA	NA	NA	87	NA	NA
2,4,5-TP (Silvex)	NA	NA	34	NA	NA	NA	NA
Volatile Organic Compounds (µg/kg)							
4-Methyl-2-pentanone	NA	NA	NA	NA	18,200	NA	NA
1,1,1-Trichloroethane	NA	NA	9.4	NA	NA	NA	NA
1,1-Dichloroethene	NA	NA	23	NA	NA	NA	NA
1,2-Dichloroethene	NA	NA	NA	NA	39	NA	NA
2-Butanone	NA	NA	1,200	NA	137	NA	NA
Acetone	NA	NA	717	4	600	NA	NA
1,2,4-trimethylbenzene	NA	NA	470	NA	67,700	NA	NA
1,3,5-trimethylbenzene	NA	NA	137	NA	34,800	NA	NA
Benzene	NA	NA	NA	NA	49	NA	NA
Carbon Disulfide	NA	NA	NA	NA	14	NA	NA
Chloroform	NA	NA	NA	NA	NA	NA	NA
Dichlorodifluoromethane	NA	NA	5.5	NA	NA	NA	NA
Ethylbenzene	NA	NA	NA	NA	24,000	NA	NA
Isopropylbenzene	NA	NA	35	NA	5,190	NA	NA
Methylene Chloride	NA	NA	44	NA	NA	NA	NA
MP-Xylene	NA	NA	6.4	NA	16,600	NA	NA
Naphthalene	14.65	NA	15	NA	178	NA	NA
n-Butylbenzene	NA	NA	29	NA	178	NA	NA
n-Propylbenzene	NA	NA	300	NA	9,430	NA	NA
o-Xylene	NA	NA	10	NA	77,600	NA	NA
p-Isopropyltoluene	NA	NA	430	NA	167	NA	NA
sec-Butylbenzene	NA	NA	14	NA	69	NA	NA
Tert-butylbenzene	NA	NA	NA	NA	4.5	NA	NA
Tetrachloroethene	NA	NA	18	NA	224	NA	NA

Key is at the end of the table.

Table 3-3 (CONTINUED)

SEDIMENT ANALYTICAL DATA SUMMARY
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA

	NOAA Standards ^a	Water Treatment Plant (Site 1)	Power Generation Plant (Site 9)	Automobile Landfill (Site 10)	White Alice Station (Site 15)	Main Hospital Area (Site 18)	Non-Directional Beacon (Site 19)
Volatile Organic Compounds (µg/kg)							
Toluene	NA	NA	3.7	NA	37,600	NA	NA
Trichloroethene	NA	NA	NA	NA	615	NA	NA
Semi-Volatile Organic Compounds (µg/kg)							
Acenaphthene	290	NA	NA	NA	501	NA	NA
Acenaphthylene	160	NA	NA	NA	NA	NA	NA
Anthracene	10	NA	NA	NA	14,600	NA	NA
Benzo(a)anthracene	15.72	NA	NA	NA	12,900	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	27.2	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	300	NA	NA	NA	10,100	NA	NA
Benzo(a)pyrene	31.9	NA	NA	NA	NA	NA	NA
Bis(2-ethylhexyl)phthalate	NA	NA	23,700	NA	108,000	NA	NA
Butylbenzylphthalate	NA	NA	1,710	NA	23,200	NA	NA
Carbazole	NA	NA	NA	NA	113	NA	NA
Chrysene	26.83	NA	604	NA	12,100	NA	NA
Dibenzo(a,h)anthracene	10	NA	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	331	NA	NA
Diethylphthalate	NA	NA	NA	NA	NA	NA	1,400
Dimethylphthalate	NA	NA	371	NA	NA	NA	NA
Di-n-Butylphthalate	110	NA	626	NA	6,060	NA	NA
Fluoranthene	31.46	NA	802	NA	16,800	NA	NA
Fluorene	10	NA	14,000	NA	1,200	NA	NA
Indeno(1,2,3-cd)pyrene	17.32	NA	NA	NA	219	NA	NA
Naphthalene	14.65	NA	NA	NA	89,500	NA	NA
Naphthalene, 1-methyl-	NA	NA	1,450	NA	152,000	NA	NA
Naphthalene, 2-methyl-	NA	NA	12,000	NA	237,000	NA	NA
n-Nitrosodiphenylamine	NA	NA	627	NA	NA	NA	NA
Phenanthrene	18.73	NA	26,000	NA	81,000	NA	NA

Key is at the end of the table.

Table 3-3 (CONTINUED)

SEDIMENT ANALYTICAL DATA SUMMARY
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA

	NOAA Standards ^a	Water Treatment Plant (Site 1)	Power Generation Plant (Site 9)	Automobile Landfill (Site 10)	White Alice Station (Site 15)	Main Hospital Area (Site 18)	Non-Directional Beacon (Site 19)
Semi-volatile Organic Compounds (µg/kg)							
Phenol	48	NA	147	NA	NA	NA	NA
Pyrene	44.27	NA	6,000	NA	31,600	NA	NA
Retene	NA	NA	920	NA	227	NA	NA
Petroleum Constituents (mg/kg)							
GRO	NA	NA	4	NA	3900	NA	NA
DRO	NA	368	140,000	220	21000	NA	NA
RRO	NA	1,270	130,000	940	20000	NA	NA
Benzene	NA	NA	NA	NA	0.3	NA	NA
Toluene	NA	NA	NA	NA	45	NA	NA
Ethylbenzene	NA	NA	NA	NA	180	NA	NA
m,p-Xylenes	NA	NA	NA	NA	1000	NA	NA
o-Xylene	NA	NA	NA	NA	490	NA	NA
Dioxins/Furans (ng/kg)							
OCDD	8.8 ^b	NA	NA	NA	NA	NA	17
Total TCDD	8.8 ^b	NA	NA	NA	NA	NA	6.25
Total PeCDD	8.8 ^b	NA	NA	NA	NA	NA	51
Total HxCDD	8.8 ^b	NA	NA	NA	NA	NA	130
Total HxCDF	8.8 ^b	NA	NA	NA	NA	NA	14
Total TCDF	8.8 ^b	NA	NA	NA	NA	NA	79

Key is at the end of the table.

Table 3-3 (CONTINUED)

SEDIMENT ANALYTICAL DATA SUMMARY
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA

	NOAA Standards ^a	Remote Communications-Air Ground Facility (Site 21)	VORTAC Facility (Site 27)	Former USCG Storage Area (Site 33B)	Fuel Pipeline System (Site 39)	Pipeline Oil/Water Separators (Site 40)	FAA Tank Farm (Site 42)
Metals (mg/kg)							
Aluminum	25,500,000	6,780	11,200	NA	NA	NA	NA
Antimony	3	NA	NA	NA	NA	NA	NA
Arsenic	5.9	1.8	4.8	NA	NA	NA	NA
Barium	NA	67	30	NA	NA	NA	NA
Beryllium	NA	0.15	0.23	NA	NA	NA	NA
Cadmium	0.6	NA	NA	NA	NA	NA	NA
Calcium	NA	1,960	4,650	NA	NA	NA	NA
Chromium	36.3	6.4	38	NA	NA	NA	NA
Cobalt	NA	6.3	21	NA	NA	NA	NA
Copper	28	8.8	9	NA	NA	NA	NA
Iron	40,000,000	8,950	21,500	NA	NA	NA	NA
Lead	35	2.3	18	114	2,700	340	15
Magnesium	NA	4,590	44,400	NA	NA	NA	NA
Manganese	630	154	266	NA	NA	NA	NA
Mercury	0.17	NA	NA	NA	NA	NA	NA
Nickel	19.5	6.5	151	NA	NA	NA	NA
Potassium	NA	1,720	NA	NA	NA	NA	NA
Selenium	NA	NA	NA	NA	NA	NA	NA
Silver	4.5	NA	NA	NA	NA	NA	NA
Sodium	NA	NA	1,380	NA	NA	NA	NA
Vanadium	NA	22	26	NA	NA	NA	NA
Zinc	98	44	89	NA	NA	NA	NA
Polychlorinated Biphenyls (µg/kg)							
Aroclor 1260	26	NA	NA	NA	NA	NA	NA
Aroclor 1254	26	NA	NA	NA	NA	NA	NA
Aroclor 1242	26	NA	NA	NA	NA	NA	NA

Key is at the end of the table.

Table 3-3 (CONTINUED)

SEDIMENT ANALYTICAL DATA SUMMARY
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA

	NOAA Standards ^a	Remote Communications-Air Ground Facility (Site 21)	VORTAC Facility (Site 27)	Former USCG Storage Area (Site 33B)	Fuel Pipeline System (Site 39)	Pipeline Oil/Water Separators (Site 40)	FAA Tank Farm (Site 42)
Pesticides/Insecticides (µg/kg)							
DDT	50	NA	NA	NA	NA	NA	NA
DDD	1.22	NA	NA	NA	NA	NA	NA
2,4,5-TP (Silvex)	NA	NA	NA	NA	NA	NA	NA
Volatile Organic Compounds (µg/kg)							
4-Methyl-2-pentanone	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethene	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethene	NA	NA	NA	NA	NA	NA	NA
2-Butanone	NA	NA	NA	NA	NA	NA	NA
Acetone	NA	NA	NA	NA	NA	NA	NA
1,2,4-trimethylbenzene	NA	NA	NA	NA	NA	NA	NA
1,3,5-trimethylbenzene	NA	NA	NA	NA	NA	NA	NA
Benzene	NA	NA	NA	NA	NA	NA	NA
Carbon Disulfide	NA	NA	NA	NA	NA	NA	NA
Chloroform	NA	NA	3	NA	NA	NA	NA
Dichlorodifluoromethane	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	NA	NA	NA	NA	NA	NA	NA
Methylene Chloride	NA	NA	NA	NA	NA	NA	NA
MP-Xylene	NA	NA	NA	NA	NA	NA	NA
Naphthalene	14.65	NA	NA	NA	NA	NA	NA
n-Butylbenzene	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	NA	NA	NA	NA	NA	NA	NA
o-Xylene	NA	NA	NA	NA	NA	NA	NA
p-Isopropyltoluene	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	NA	NA	NA	NA	NA	NA	NA
Tert-butylbenzene	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	NA	NA	NA	NA	NA	NA	NA

Key is at the end of the table.

Table 3-3 (CONTINUED)

SEDIMENT ANALYTICAL DATA SUMMARY
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA

	NOAA Standards ^a	Remote Communications-Air Ground Facility (Site 21)	VORTAC Facility (Site 27)	Former USCG Storage Area (Site 33B)	Fuel Pipeline System (Site 39)	Pipeline Oil/Water Separators (Site 40)	FAA Tank Farm (Site 42)
Volatile Organic Compounds (µg/kg)							
Toluene	NA	NA	27	NA	NA	NA	NA
Trichloroethene	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds (µg/kg)							
Acenaphthene	290	NA	NA	120	2,100	NA	9.6
Acenaphthylene	160	NA	NA	NA	NA	NA	8
Anthracene	10	NA	NA	NA	7,300	NA	17
Benzo(a)anthracene	15.72	NA	NA	NA	13,000	NA	57
Benzo(b)fluoranthene	NA	NA	NA	100	9,500	NA	130
Benzo(k)fluoranthene	27.2	NA	NA	NA	9,900	NA	76
Benzo(g,h,i)perylene	300	NA	NA	NA	6,700	NA	36
Benzo(a)pyrene	31.9	NA	NA	990	12,000	NA	62
Bis(2-ethylhexyl)phthalate	NA	NA	NA	NA	NA	NA	NA
Butylbenzylphthalate	NA	NA	NA	NA	NA	NA	NA
Carbazole	NA	NA	NA	NA	NA	NA	NA
Chrysene	26.83	NA	NA	NA	15,000	NA	200
Dibenzo(a,h)anthracene	10	NA	NA	NA	3,000	NA	12
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA
Diethylphthalate	NA	NA	2,300	NA	NA	NA	NA
Dimethylphthalate	NA	NA	NA	NA	NA	NA	NA
Di-n-Butylphthalate	110	NA	NA	NA	NA	NA	NA
Fluoranthene	31.46	NA	NA	NA	30,000	NA	740
Fluorene	10	NA	NA	NA	3,500	NA	NA
Indeno(1,2,3-cd)pyrene	17.32	NA	NA	NA	6,000	NA	24
Naphthalene	14.65	NA	NA	NA	NA	NA	25
Naphthalene, 1-methyl-	NA	NA	NA	NA	NA	NA	NA
Naphthalene, 2-methyl-	NA	NA	NA	NA	NA	NA	32
n-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	18.73	NA	NA	NA	22,000	NA	180

Key is at the end of the table.

Table 3-3 (CONTINUED)

SEDIMENT ANALYTICAL DATA SUMMARY
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA

	NOAA Standards ^a	Remote Communications- Air Ground Facility (Site 21)	VORTAC Facility (Site 27)	Former USCG Storage Area (Site 33B)	Fuel Pipeline System (Site 39)	Pipeline Oil/Water Separators (Site 40)	FAA Tank Farm (Site 42)
Semivolatile Organic Compounds (µg/kg)							
Phenol	48	NA	NA	NA	NA	NA	360
Pyrene	44.27	NA	NA	NA	26,000	NA	NA
Retene	NA	NA	NA	NA	NA	NA	NA
Petroleum Constituents (mg/kg)							
GRO	NA	NA	NA	NA	NA	NA	NA
DRO	NA	NA	NA	18,000	2,300	NA	350
RRO	NA	NA	NA	13,000	23,000	6,900	770
Benzene	NA	NA	NA	NA	NA	NA	NA
Toluene	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	NA	NA	NA	NA	NA	NA	NA
m,p-Xylenes	NA	NA	NA	NA	NA	NA	NA
o-Xylene	NA	NA	NA	NA	NA	NA	NA
Dioxins/Forans (ng/kg)							
OCDD	8.8 ^b	NA	NA	NA	NA	NA	NA
Total TCDD	8.8 ^b	NA	NA	NA	NA	NA	NA
Total PeCDD	8.8 ^b	NA	NA	NA	NA	NA	NA
Total HxCDD	8.8 ^b	NA	NA	NA	NA	NA	NA
Total HxCDF	8.8 ^b	NA	NA	NA	NA	NA	NA
Total TCDF	8.8 ^b	NA	NA	NA	NA	NA	NA

Key is at the end of the table.

Table 3-3 (CONTINUED)

SEDIMENT ANALYTICAL DATA SUMMARY
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA

	NOAA Standards ^a	USCG Seaplane Base (Site 45A)	Runway Taxiways and Parking Circles (Site 64)	Hangar (Site 75)
Metals (mg/kg)				
Aluminum	25,500,000	NA	NA	7,950
Antimony	3	NA	NA	NA
Arsenic	5.9	NA	NA	14
Barium	NA	NA	NA	42
Beryllium	NA	NA	NA	0.24
Cadmium	0.6	NA	NA	4.8
Calcium	NA	NA	NA	2,220
Chromium	36.3	NA	NA	167
Cobalt	NA	NA	NA	59
Copper	28	NA	NA	58
Iron	40,000,000	NA	NA	42,000
Lead	35	340	NA	289
Magnesium	NA	NA	NA	108,000
Manganese	630	NA	NA	606
Mercury	0.17	NA	NA	0.36
Nickel	19.5	NA	NA	462
Potassium	NA	NA	NA	509
Selenium	NA	NA	NA	NA
Silver	4.5	NA	NA	NA
Sodium	NA	NA	NA	142
Vanadium	NA	NA	NA	22
Zinc	98	NA	NA	1,060
Polychlorinated Biphenyls (pg/kg)				
Aroclor 1260	26	NA	NA	2,900
Aroclor 1254	26	NA	NA	60
Aroclor 1242	26	NA	NA	NA

Key is at the end of the table.

Table 3-3 (CONTINUED)

SEDIMENT ANALYTICAL DATA SUMMARY
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA

	NOAA Standards ^a	USCG Seaplane Base (Site 45A)	Runway Taxiways and Parking Circles (Site 64)	Hangar (Site 75)
Pesticides/Insecticides (µg/kg)				
DDT	50	NA	NA	NA
DDD	1.22	NA	NA	NA
2,4,5-TP (Silvex)	NA	NA	NA	NA
Volatile Organic Compounds (µg/kg)				
4-Methyl-2-pentanone	NA	NA	NA	NA
1,1,1-Trichloroethane	NA	NA	NA	NA
1,1-Dichloroethene	NA	NA	NA	NA
1,2-Dichloroethene	NA	NA	NA	NA
2-Butanone	NA	NA	NA	NA
Acetone	NA	NA	NA	NA
1,2,4-trimethylbenzene	NA	NA	NA	NA
1,3,5-trimethylbenzene	NA	NA	NA	NA
Benzene	NA	NA	NA	NA
Carbon Disulfide	NA	NA	NA	NA
Chloroform	NA	NA	NA	NA
Dichlorodifluoromethane	NA	NA	NA	NA
Ethylbenzene	NA	NA	NA	NA
Isopropylbenzene	NA	NA	NA	NA
Methylene Chloride	NA	NA	NA	NA
MP-Xylene	NA	NA	NA	NA
Naphthalene	14.65	NA	NA	NA
n-Butylbenzene	NA	NA	NA	NA
n-Propylbenzene	NA	NA	NA	NA
o-Xylene	NA	NA	NA	NA
p-Isopropyltoluene	NA	NA	NA	NA
sec-Butylbenzene	NA	NA	NA	NA
Tert-butylbenzene	NA	NA	NA	NA
Tetrachloroethene	NA	NA	NA	NA

Key is at the end of the table.

Table 3-3 (CONTINUED)

SEDIMENT ANALYTICAL DATA SUMMARY
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA

	NOAA Standards ^a	USCG Seaplane Base (Site 45A)	Runway Taxiways and Parking Circles (Site 64)	Hangar (Site 75)
Volatile Organic Compounds (µg/kg)				
Toluene	NA	NA	NA	NA
Trichloroethene	NA	NA	NA	NA
Semivolatile Organic Compounds (µg/kg)				
Acenaphthene	290	NA	NA	NA
Acenaphthylene	160	NA	NA	NA
Anthracene	10	NA	NA	NA
Benzo(a)anthracene	15.72	13	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA
Benzo(k)fluoranthene	27.2	NA	NA	NA
Benzo(g,h,i)perylene	300	NA	NA	NA
Benzo(a)pyrene	31.9	NA	NA	NA
Bis(2-ethylhexyl)phthalate	NA	NA	NA	NA
Butylbenzylphthalate	NA	NA	NA	NA
Carbazole	NA	NA	NA	NA
Chrysene	26.83	44	NA	NA
Dibenzo(a,h)anthracene	10	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA
Diethylphthalate	NA	NA	NA	NA
Dimethylphthalate	NA	NA	NA	NA
Di-n-Butylphthalate	110	NA	NA	NA
Fluoranthene	31.46	28	NA	NA
Fluorene	10	NA	NA	NA
Indeno(1,2,3-cd)pyrene	17.32	NA	NA	NA
Naphthalene	14.65	NA	NA	NA
Naphthalene, 1-methyl-	NA	NA	NA	NA
Naphthalene, 2-methyl-	NA	NA	NA	NA
n-Nitrosodiphenylamine	NA	NA	NA	NA
Phenanthrene	18.73	11	NA	NA

Key is at the end of the table.

Table 3-3 (CONTINUED)

**SEDIMENT ANALYTICAL DATA SUMMARY
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA**

	NOAA Standards ^a	USCG Seaplane Base (Site 45A)	Runway Taxiways and Parking Circles (Site 64)	Hangar (Site 75)
Semi-volatile Organic Compounds (µg/kg)				
Phenol	48	NA	NA	NA
Pyrene	44.27	40	NA	NA
Refene	NA	NA	NA	NA
Petroleum Constituents (mg/kg)				
GRO	NA	0.88	NA	NA
DRO	NA	17	1,880	550
RRO	NA	6,900	4,100	1,100
Benzene	NA	NA	NA	NA
Toluene	NA	NA	NA	NA
Ethylbenzene	NA	NA	NA	NA
m,p-Xylenes	NA	NA	NA	NA
o-Xylene	NA	NA	NA	NA
Dioxins/Furans (ng/kg)				
OCDD	8.8 ^b	NA	NA	NA
Total TCDD	8.8 ^b	NA	NA	NA
Total PeCDD	8.8 ^b	NA	NA	NA
Total HxCDD	8.8 ^b	NA	NA	NA
Total HxCDF	8.8 ^b	NA	NA	NA
Total TCDF	8.8 ^b	NA	NA	NA

Key is on the next page.

Source: DOWL 1999, E & E 1995a, E & E 1999, JEG 2000b, JEG 2000c, and REI 1998b.

Note: Bold and italics indicate that the detected concentration exceeds the National Oceanic and Atmospheric Administration Screening Quick Reference Table value.

Data represent the maximum detected concentration of a given contaminant at a particular site. If data are not presented for a specific contaminant, then the data were either not available or have never been analyzed.

^a The most conservative freshwater sediment value from the National Oceanic and Atmospheric Administration Screening Quick Reference Table was used.^b The value for 2,3,7,8 TCDD was used for comparison.

Key:

DDD	= Dichlorodiphenyldichloroethane.
DDT	= Dichlorodiphenyldichloroethane.
DOWL	= DOWL Engineers.
DRO	= Diesel-range organics.
E & E	= Ecology and Environment, Inc.
FAA	= Federal Air Administration.
GRO	= Gasoline-range organics.
HxCDD	= Hexachlorodibenzo-p-dioxin.
HxCDF	= Hexachlorodibenzofuran.
JEG	= Jacobs Engineering Group.
ug/kg	= Micrograms per kilogram.
mg/kg	= Milligrams per kilogram.
NA	= Not applicable.
ng/kg	= Nanograms per kilogram.
NOAA	= National Oceanic and Atmospheric Administration.
OCDD	= Octachlorodibenzo-p-dioxin.
PeCDD	= Pentachlorodibenzo-p-dioxin.
REI	= Ridolfi Engineers, Inc.
RRO	= Residual-range organics.
TCDD	= Tetrachlorodibenzo-p-dioxin.
TCDF	= Tetrachlorodibenzofuran.
TP	= Dichlorophenoxypropionic acid.
USCG	= United States Coast Guard.
VORTAC	= Very High Frequency Omnitrange Station/Tactical Air Navigation.

Source: REI 1998b.

KEY:	
Y	Vegetation
AST	Aboveground Storage Tank
UST	Underground Storage Tank

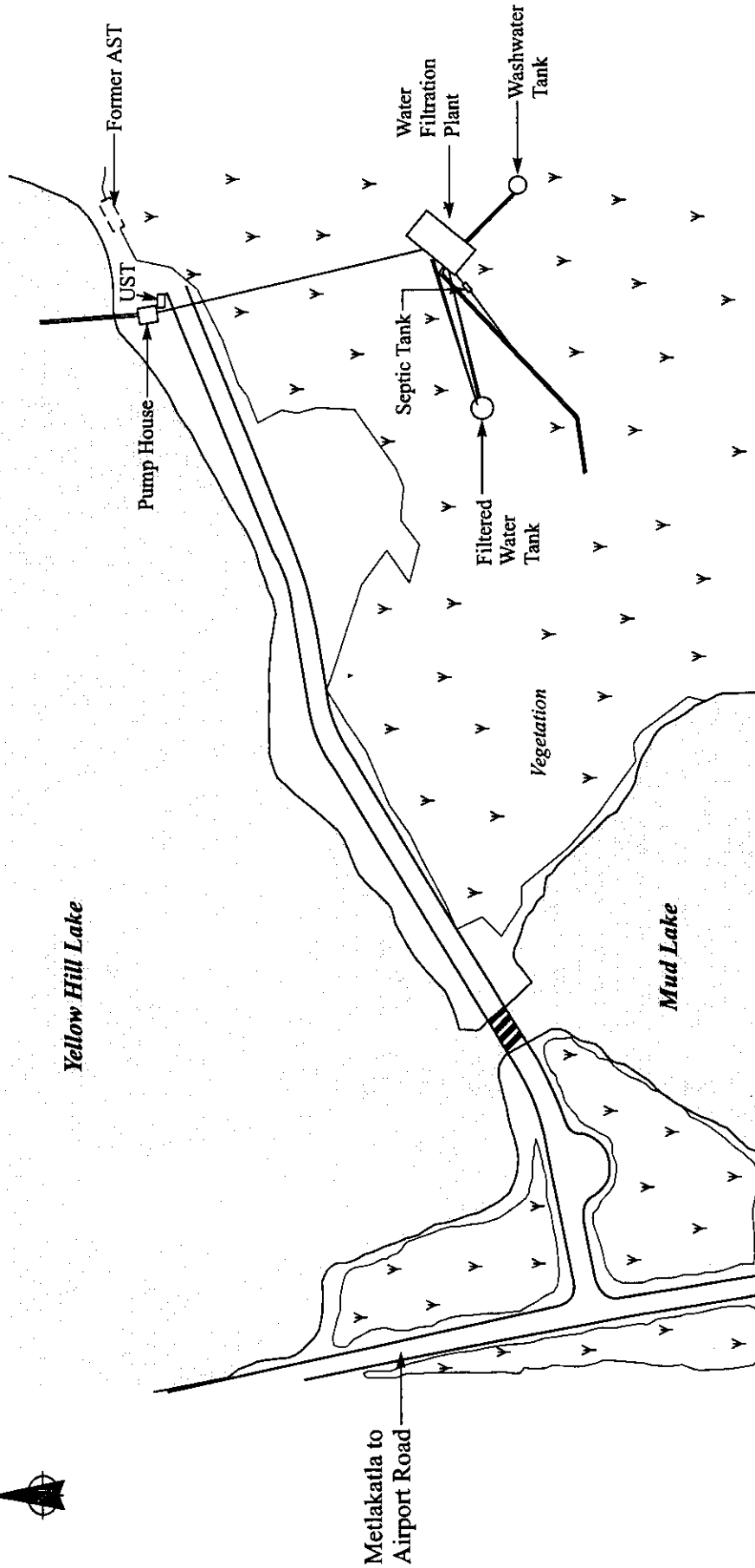
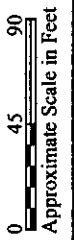


Figure 3-1
SITE 1 WATER TREATMENT PLANT

METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
Annette Island, Alaska

ecology and environment, inc.
International Specialists in the Environment
Anchorage, Alaska



Date:
12/7/00

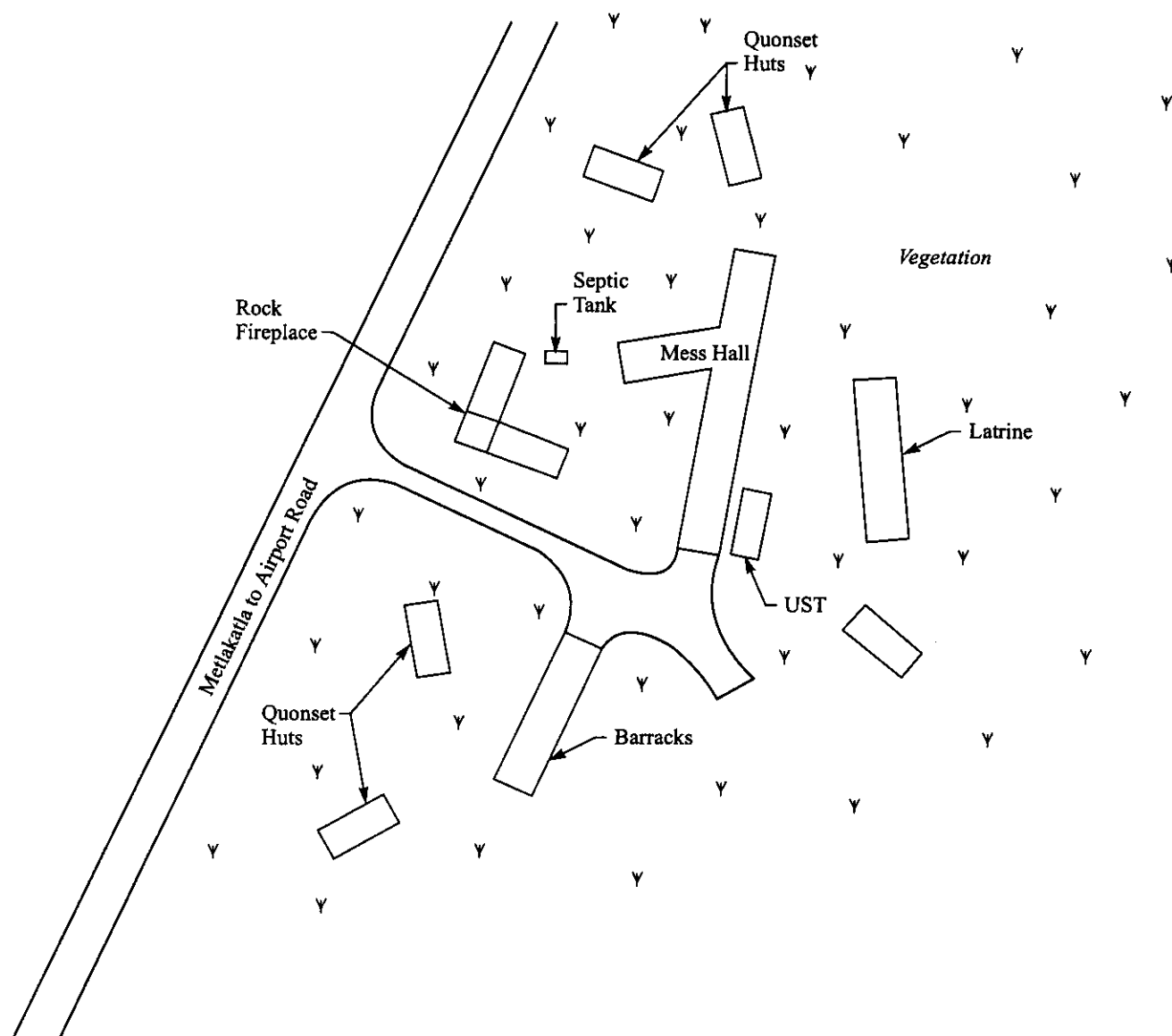
TDD No.
00-01-0013

PAN No.
EA1301SIT0

Dwg. No.
EA1301 3-1

Pubs. No.
S523

Drawn by: AES

**KEY:**

Y Vegetation
UST Underground Storage Tank



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International Specialists in the Environment
Anchorage, Alaska

**METLAKATLA
INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
Annette Island, Alaska**


0 50 100
Approximate Scale in Feet

**Figure 3-2
SITE 2 ENGINEER GARRISON - YELLOW HILL**

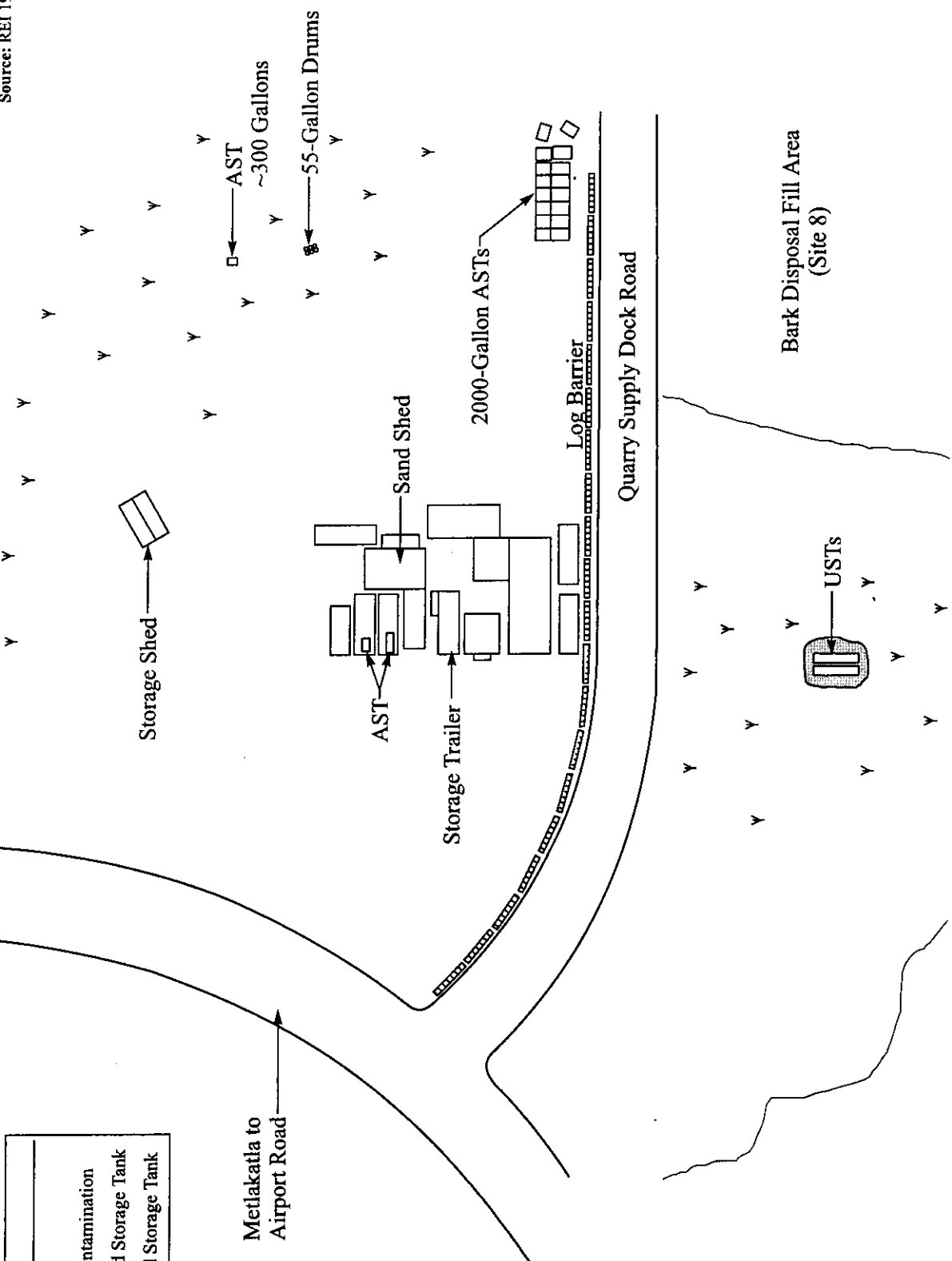
Date: 12-7-00	TDD No. 00-01-0013	PAN No. EA1301SIT0	Dwg. No. EA1301 3-2	Pubs. No. S523
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Drawn by: AES

Source: REI 1998b.

Key:	
Y	Vegetation
	Observed Contamination
AST	Aboveground Storage Tank
UST	Underground Storage Tank

Metlakatla to
Airport Road



METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
Annette Island, Alaska

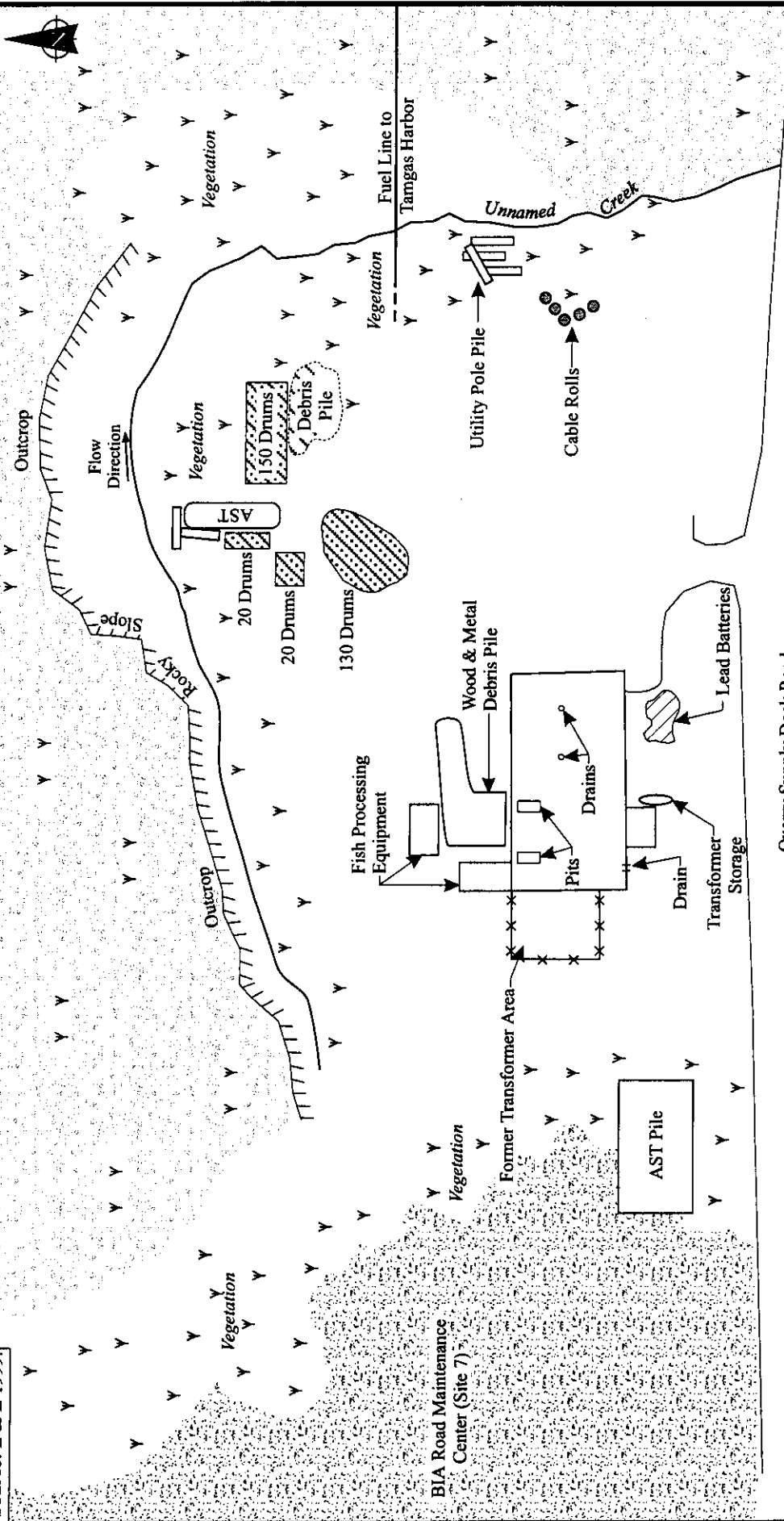
Figure 3-3
SITE 7 BIA ROAD MAINTENANCE CENTER

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International Specialists in the Environment
Anchorage, Alaska

Date: 12/7/00	TDD No. 00-01-0013	PAN No. EA1301SIT0	Dwg. No. EA1301 3-3	Pubs. No. S523
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Drawn by: AES

Source: E & E 1999.



KEY:

- Y Vegetation
- AST Aboveground Storage Tank
- BIA Bureau of Indian Affairs
- *— Fence

Bark Disposal Fill Area (Site 8)

Gravel Pad

Proposed Golf Course



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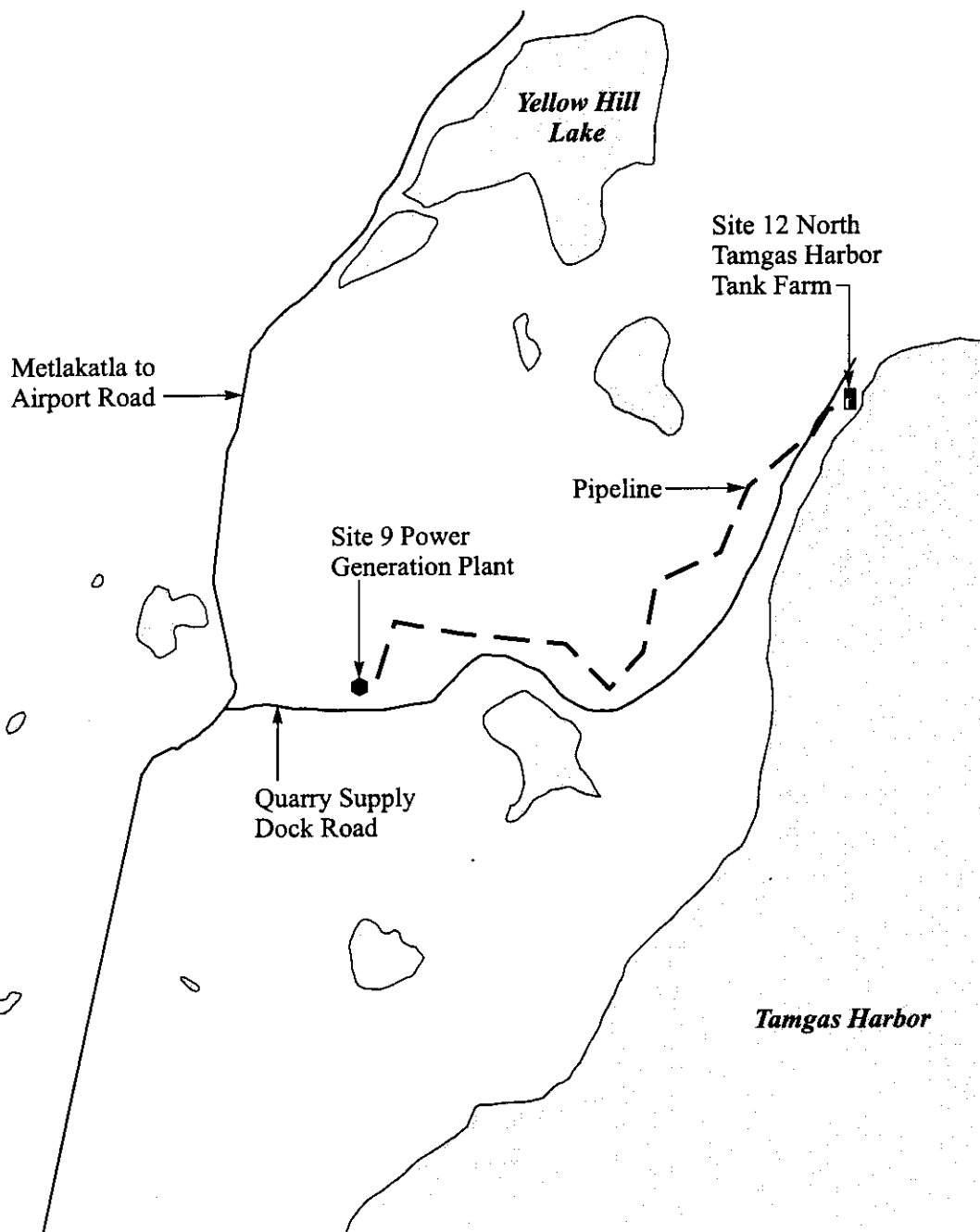
**METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
Annette Island, Alaska**

Figure 3-4

SITE 9 POWER GENERATION PLANT

Date:	TDD No.	PAN No.	Dwg. No.	Pubs. No.
12/7/00	00-01-0013	EA1301SIT0	EA1301 3-4	S523





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Annette Island, Alaska**

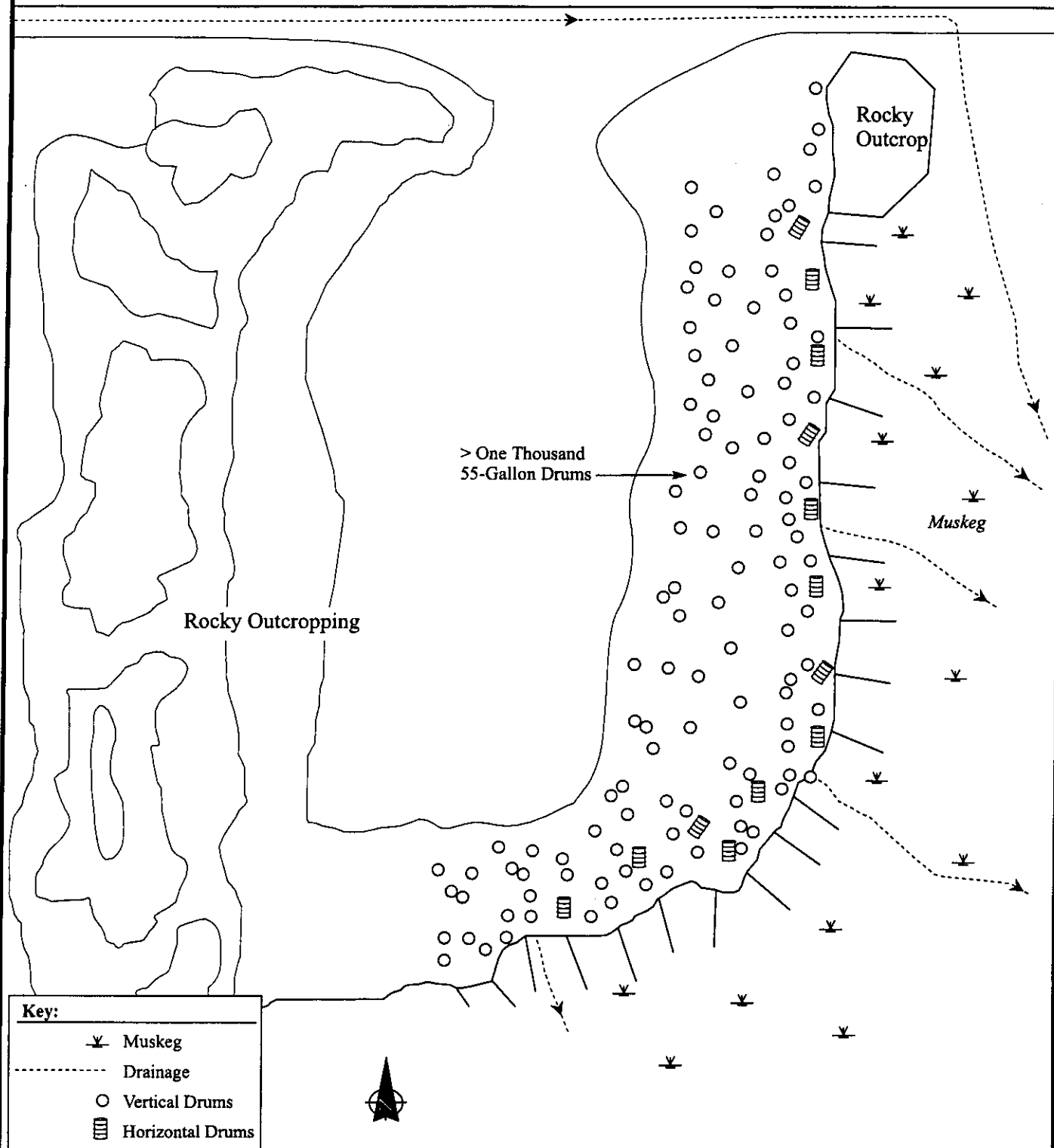
0 0.25 0.5
Approximate Scale in Miles

**Figure 3-5
PIPELINE BETWEEN POWER
GENERATION PLANT AND TANK FARM**

Date: 12-7-00	TDD No. 00-01-0013	PAN No. EA1301SIT0	Dwg. No. EA1301 3-5	Pubs. No. S523
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Drawn by: AES

Quarry Supply Dock Road



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**METLAKATLA
INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
Annette Island, Alaska**

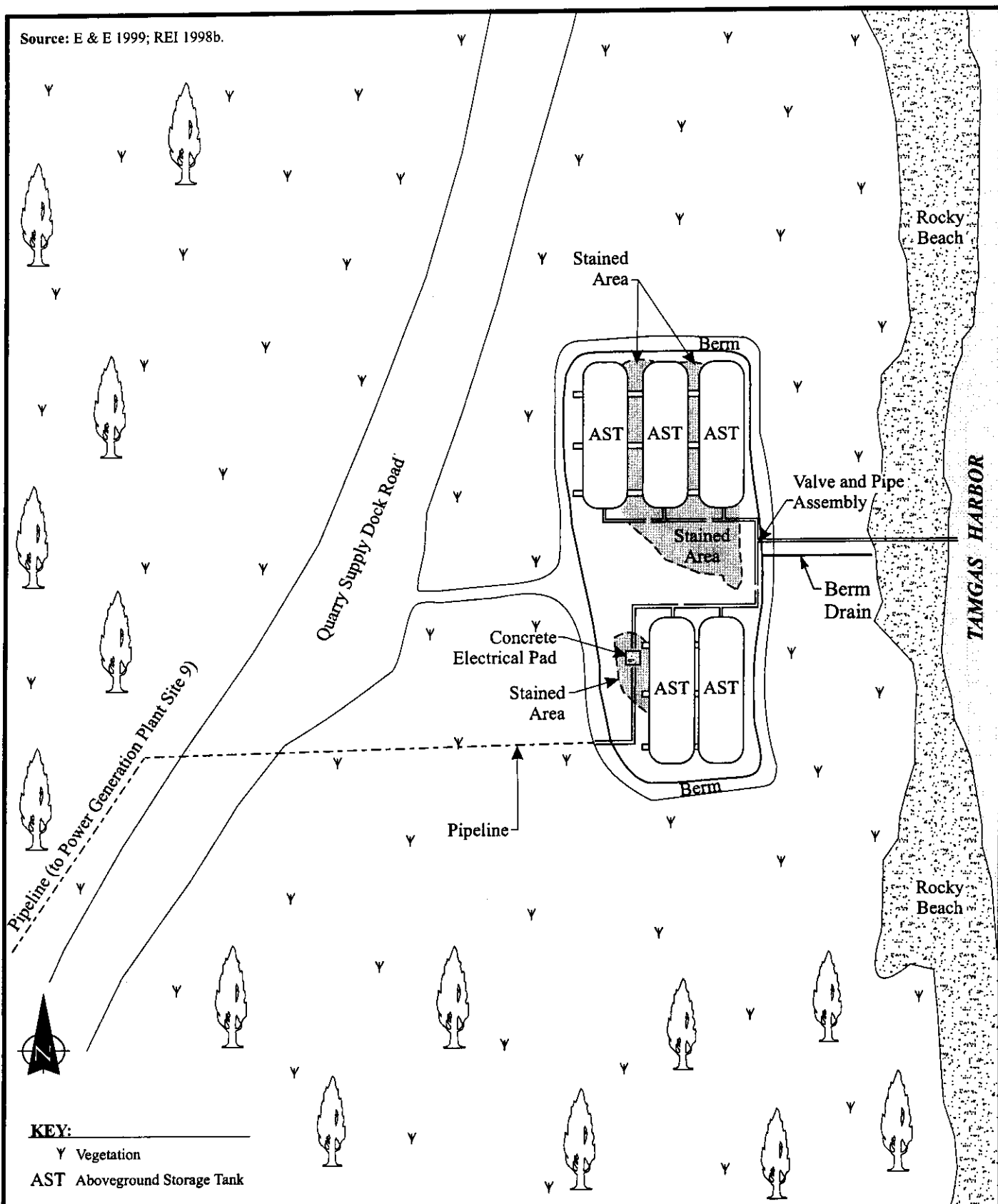
Not to Scale

**Figure 3-6
SITE 10 AUTOMOBILE LANDFILL**

Date: 12-7-00	TDD No. 00-01-0013	PAN No. EA1301SIT0	Dwg. No. EA1301 3-6	Pubs. No. S523
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Drawn by: AES

Source: E & E 1999; REI 1998b.



KEY:

- Y Vegetation
- AST Aboveground Storage Tank



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International Specialists in the Environment
Anchorage, Alaska

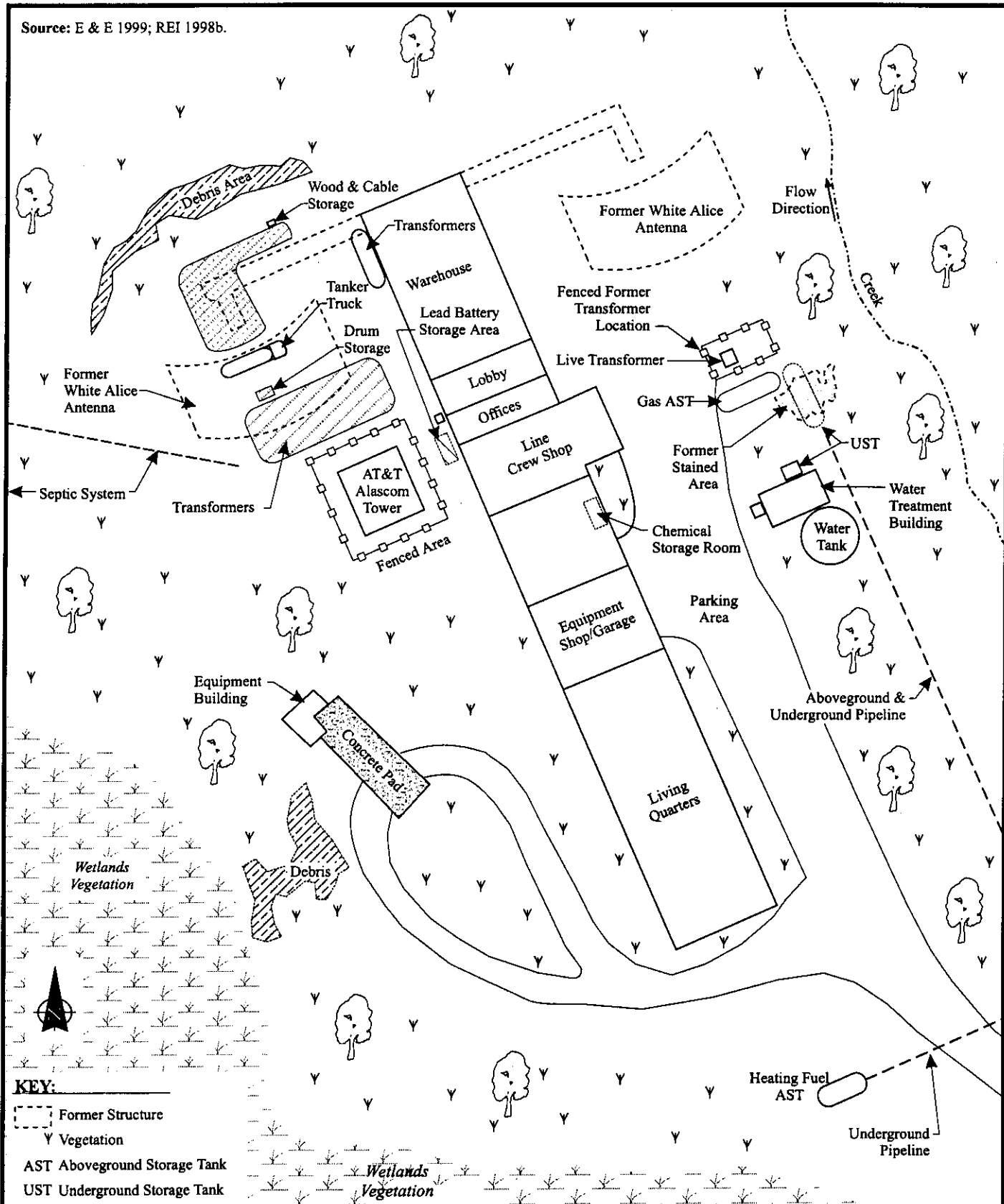
**METLAKATLA
INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
Annette Island, Alaska**

0 20 40
Approximate Scale in Feet

**Figure 3-7
SITE 12 NORTH TAMGAS
HARBOR TANK FARM**

Date: 12-7-00	TDD No. 00-01-0013	PAN No. EA1301SIT0	Dwg. No. EA1301 3-7	Pubs. No. S523
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Source: E & E 1999; REI 1998b.



KEY:

- Former Structure
- Vegetation
- AST Aboveground Storage Tank
- UST Underground Storage Tank



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Anchorage, Alaska

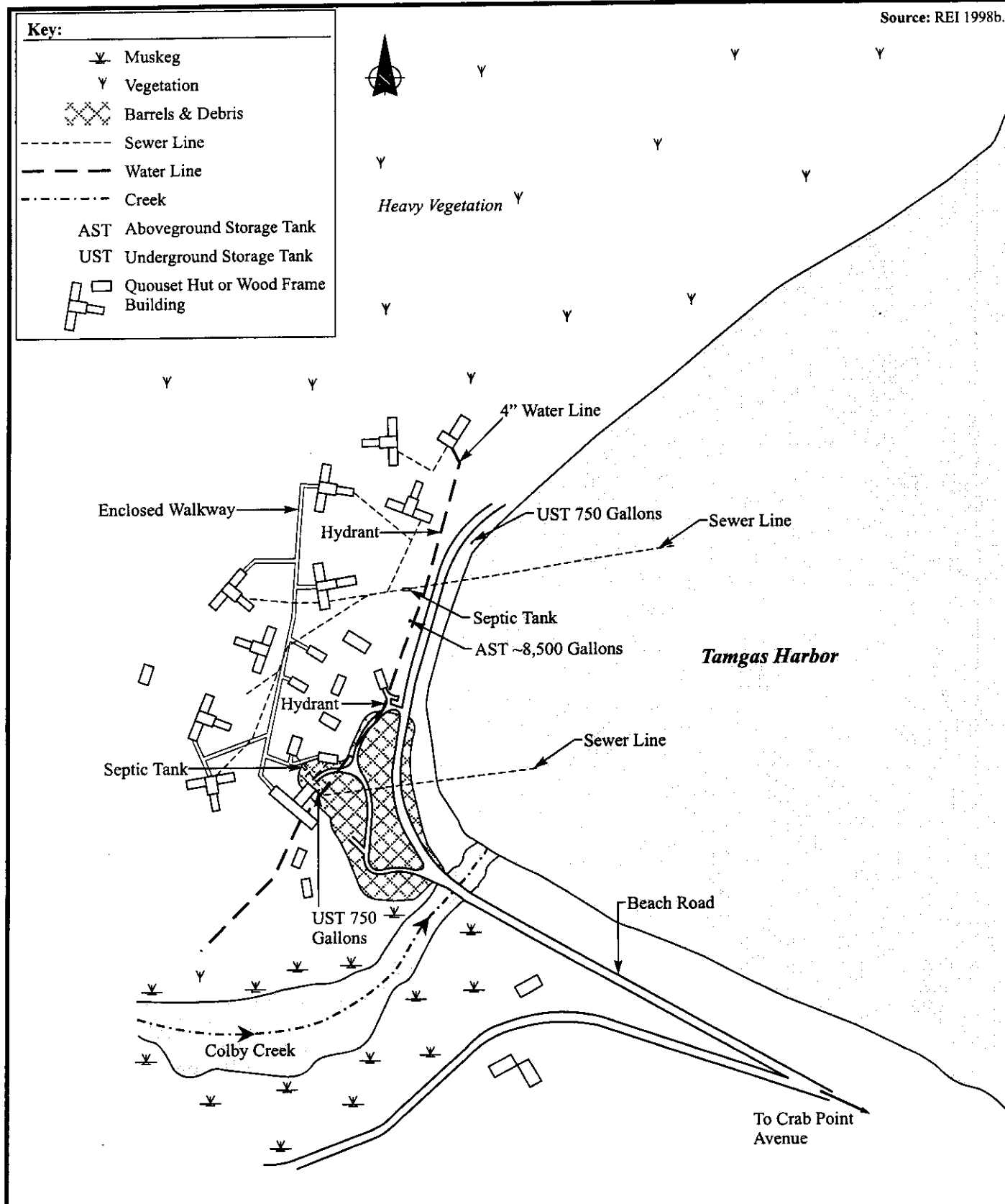
**METLAKATLA
INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
Annette Island, Alaska**

0 50 100
Approximate Scale in Feet

**Figure 3-8
SITE 15 WHITE ALICE STATION**

Date: 12-7-00	TDD No. 00-01-0013	PAN No. EA1301SIT0	Dwg. No. EA1301 3-8	Pubs. No. S523
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Drawn by: AES



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Anchorage, Alaska

**METLAKATLA
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NON-SAMPLING SITE INSPECTION
Annette Island, Alaska**

0 150 300
Approximate Scale in Feet

**Figure 3-9
SITE 18 MAIN HOSPITAL AREA**

Date: 12-7-00	TDD No. 00-01-0013	PAN No. EA1301SIT0	Dwg. No. EA1301 3-9	Pubs. No. S523
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Drawn by: AEB

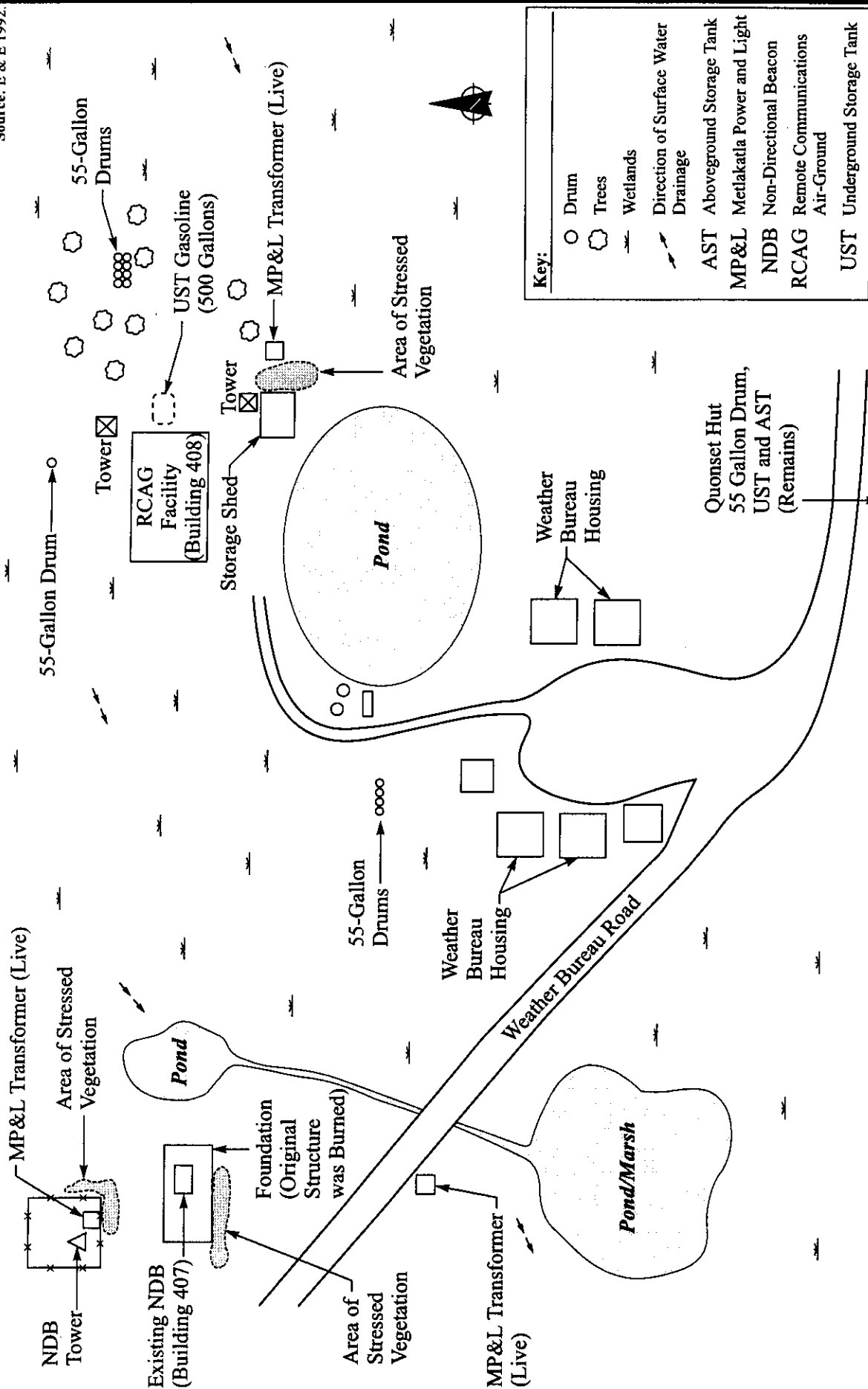


Figure 3-10

SITE 19 NON-DIRECTIONAL BEACON, SITE 20
WEATHER BUREAU HOUSING, AND SITE 21 REMOTE
COMMUNICATIONS AIR-GROUND FACILITY

METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
Annette Island, Alaska

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International Specialists in the Environment
Anchorage, Alaska

Date:	TDD No.	PAN No.	Dwg. No.	Pubs. No.
12/7/00	00-01-0013	EA1301SIT0	EA1301 3-10	S523

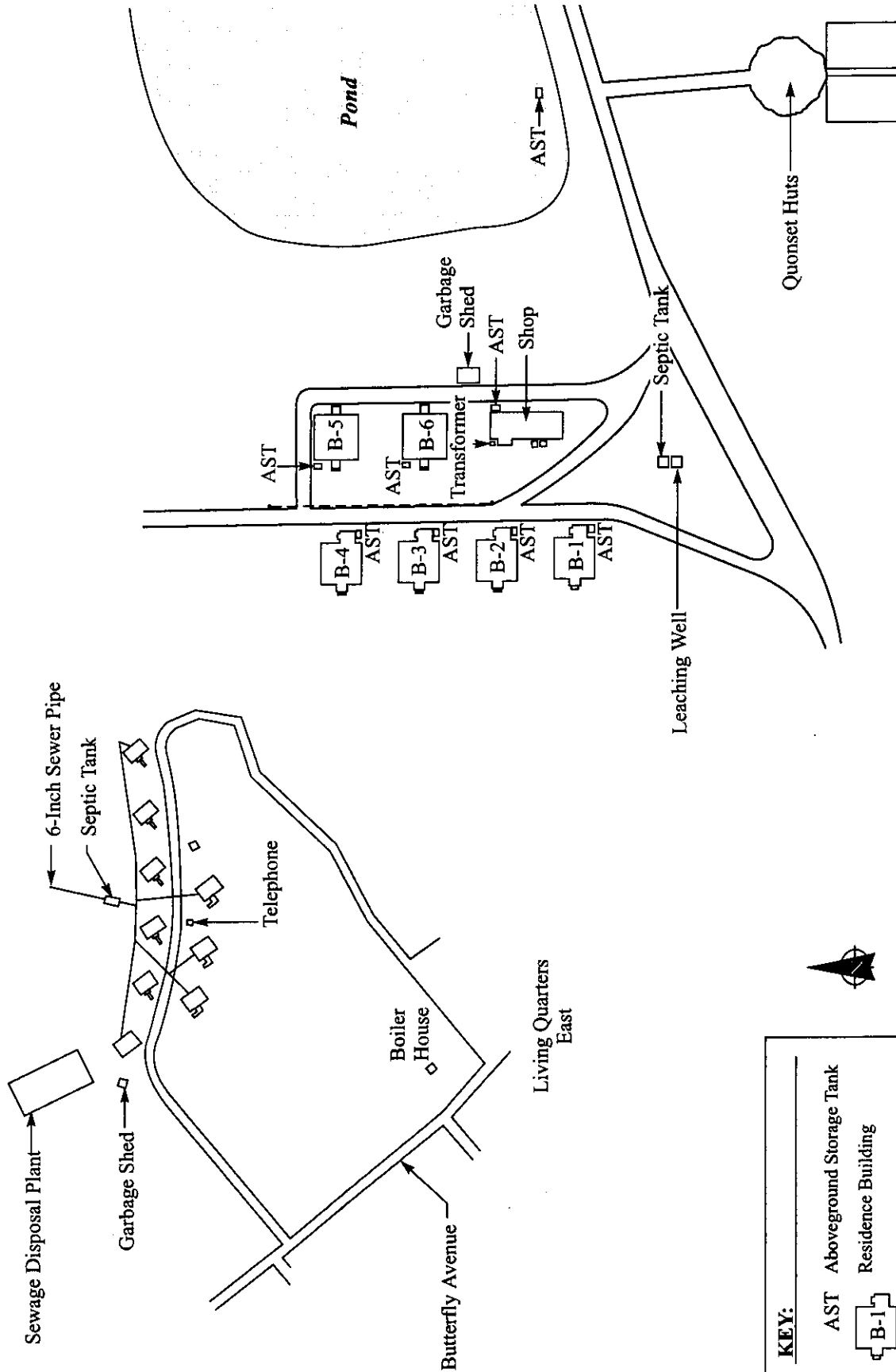
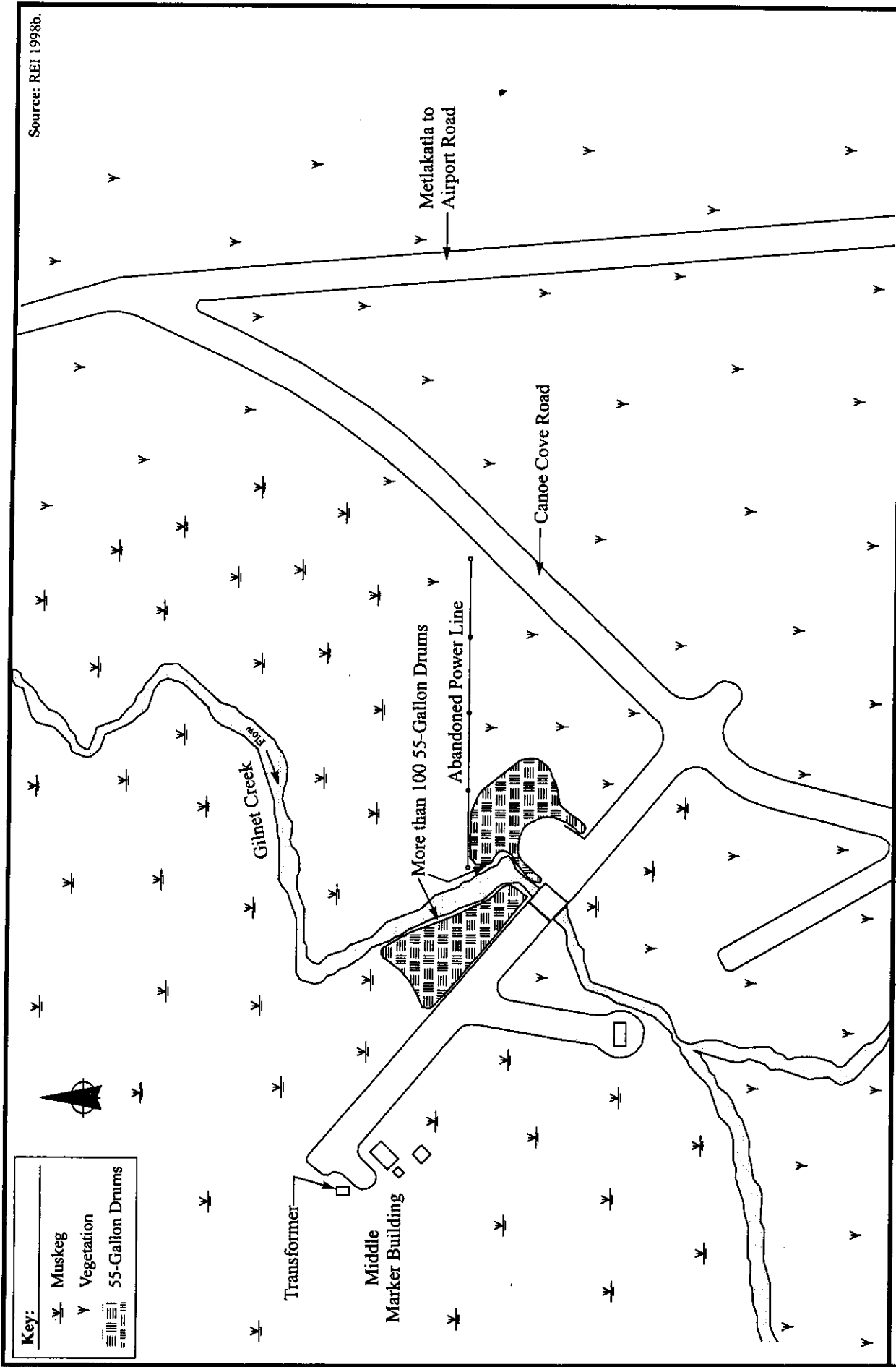


Figure 3-11
SITE 20 WEATHER BUREAU HOUSING

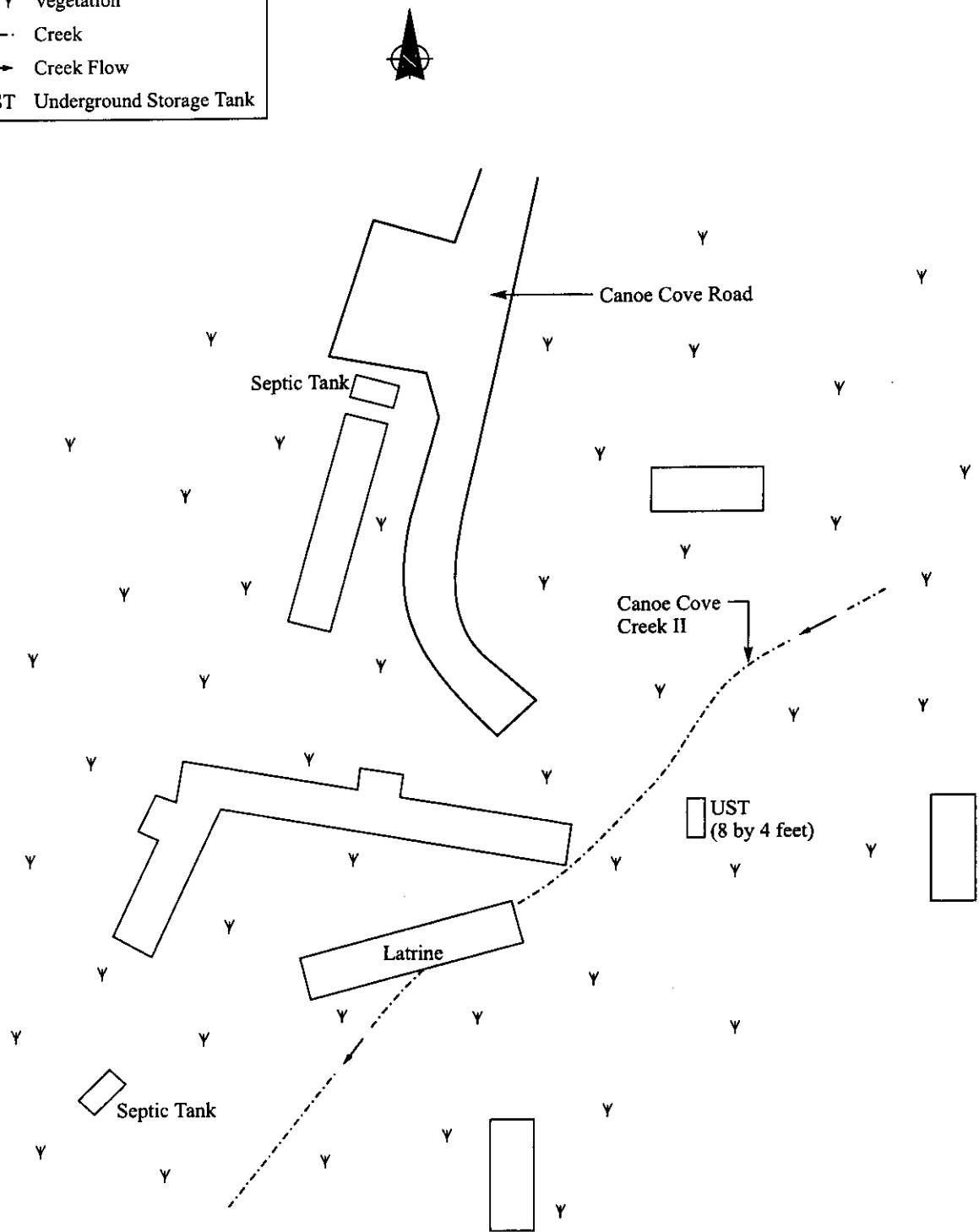
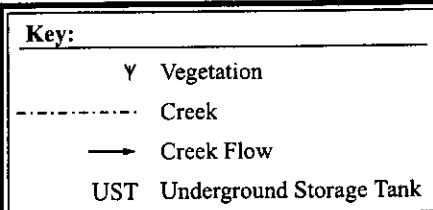
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
Annette Island, Alaska

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Anchorage, Alaska



Date:	TDD No.	PAN No.	Dwg. No.	Pubs. No.
12/7/00	00-01-0013	EA1301SIT0	EA1301 3-11	S523

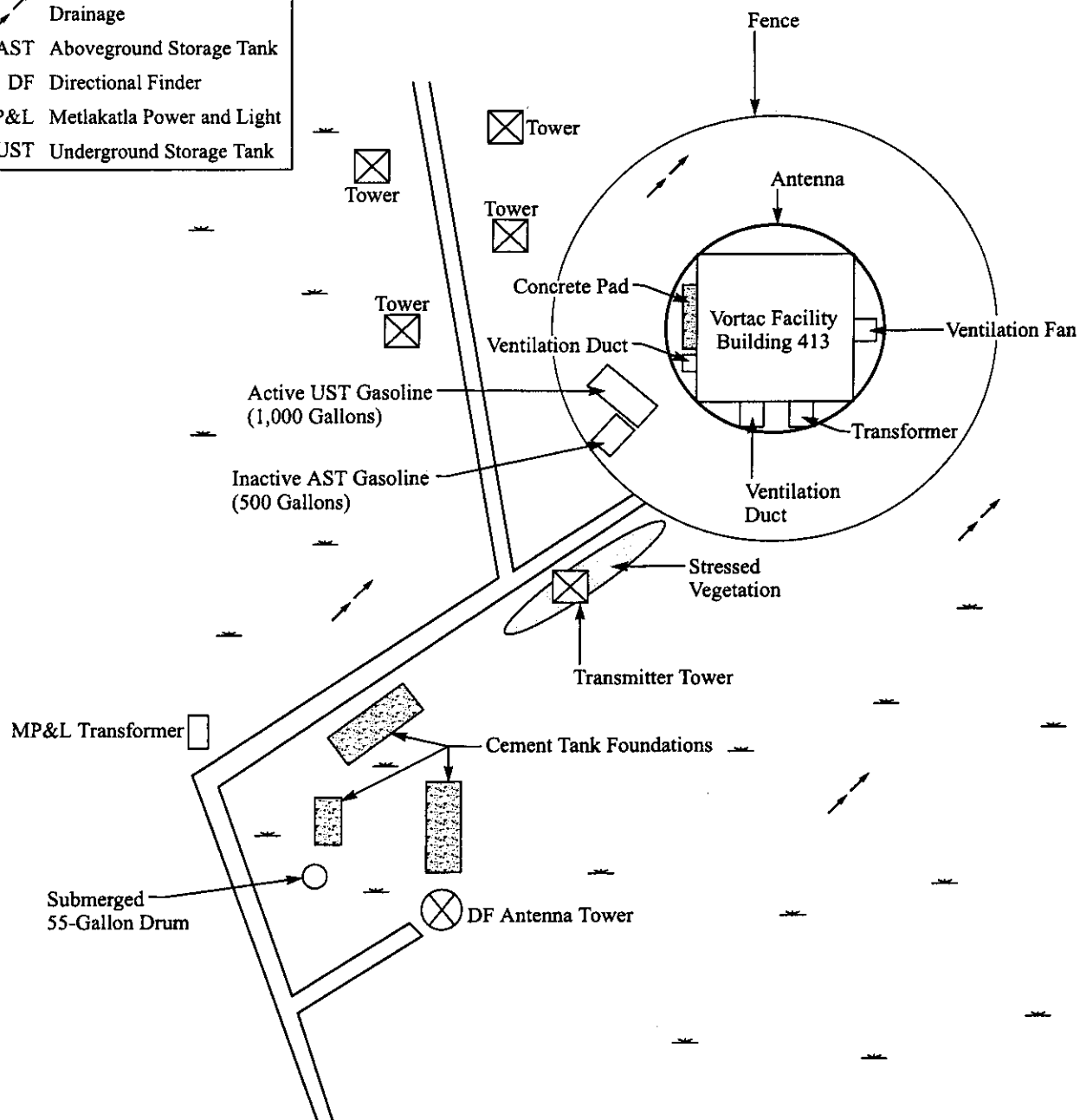


ecology and environment, inc. International Specialists in the Environment Anchorage, Alaska		METLAKATLA INDIAN COMMUNITY NON-SAMPLING SITE INSPECTION Annette Island, Alaska		Figure 3-12 SITE 24 MIDDLE MARKER FACILITY			
0 50 100 Approximate Scale in Feet		Date:	TDD No.	PAN No.	Dwg. No.	Pubs. No.	
		12/7/00	00-01-0013	EA1301SIT0	EA1301 3-12	S523	



Key:

-  Marsh
-  Direction of Surface Water Drainage
- AST Aboveground Storage Tank
- DF Directional Finder
- MP&L Metlakatla Power and Light
- UST Underground Storage Tank



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Annette Island, Alaska**

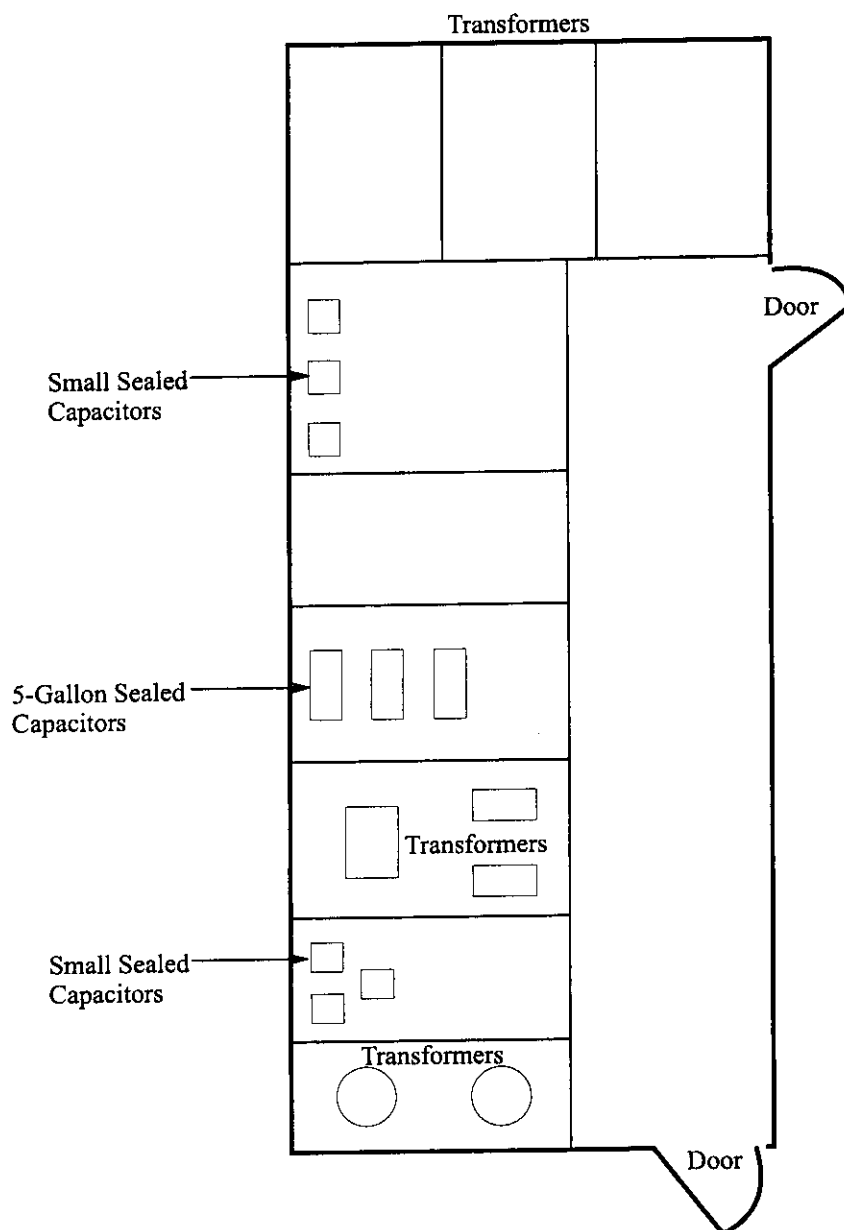
Not to Scale

Figure 3-14

**SITE 27 VORTAC FACILITY AND
SITE 29 DIRECTIONAL FINDER ANTENNA**

Date: 12-7-00	TDD No. 00-01-0013	PAN No. EA1301SIT0	Dwg. No. EA1301 3-14	Pubs. No. S523
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Drawn by: AES



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INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
Annette Island, Alaska**

Not to Scale

**Figure 3-15
SITE 32 SHORT APPROACH LIGHTING
SYSTEM RUNWAY END IDENTIFICATION
LIGHTS BUILDING**

Date: 12-7-00	TDD No. 00-01-0013	PAN No. EA1301SIT0	Dwg. No. EA1301 3-15	Pubs. No. S523
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Drawn by: AES

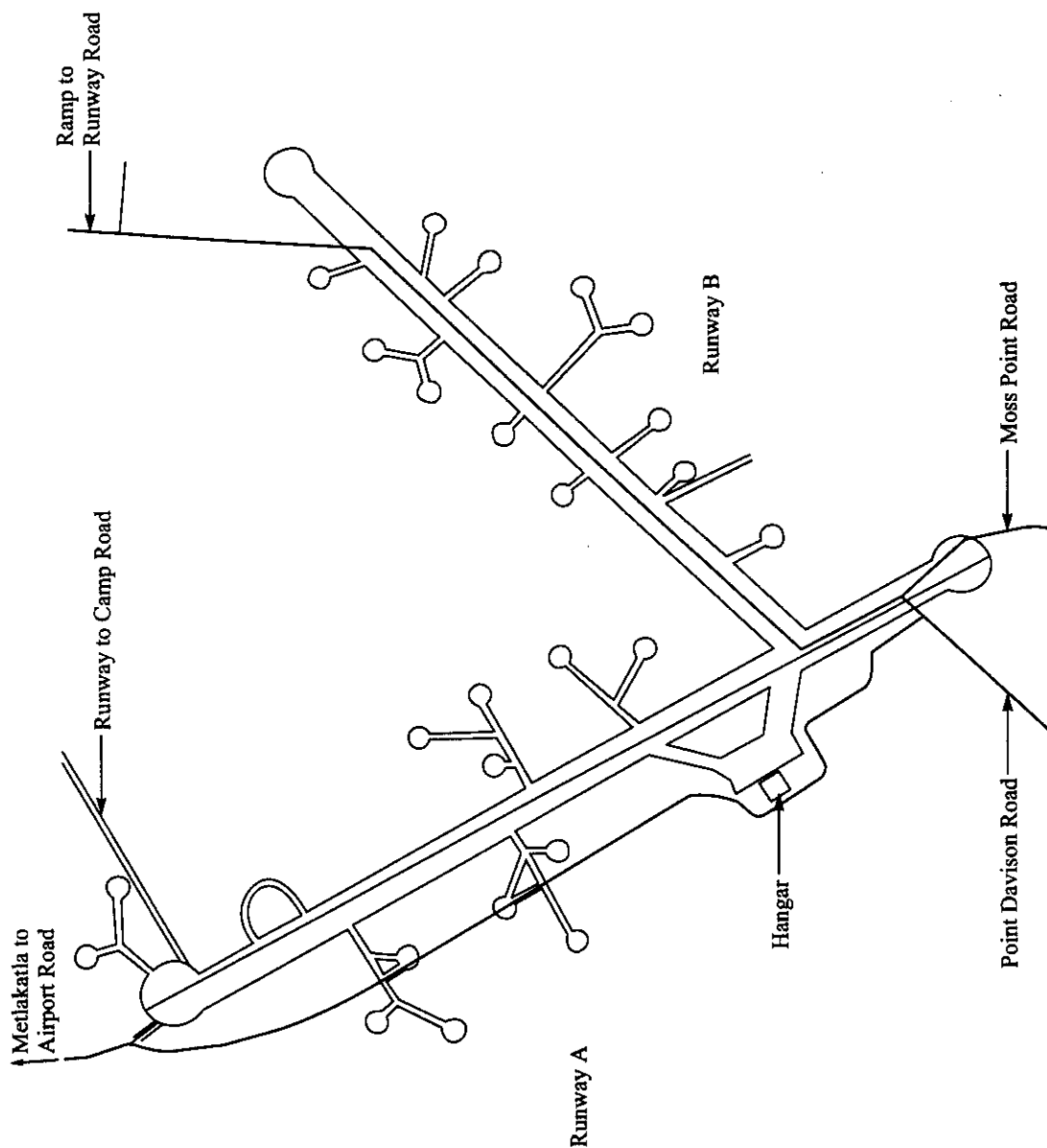


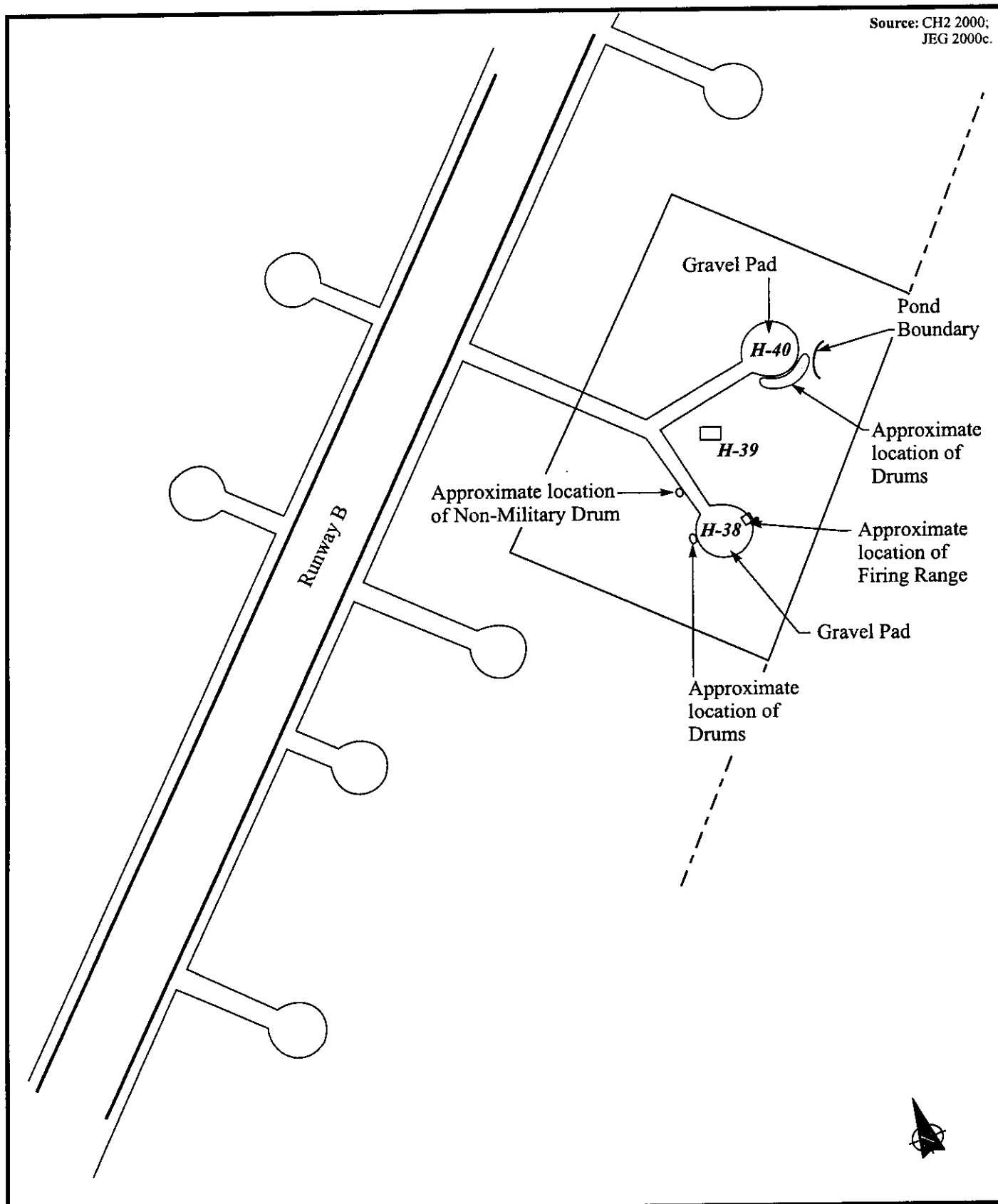
Figure 3-16
SITE 33A LANDING FIELD


METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
Annette Island, Alaska

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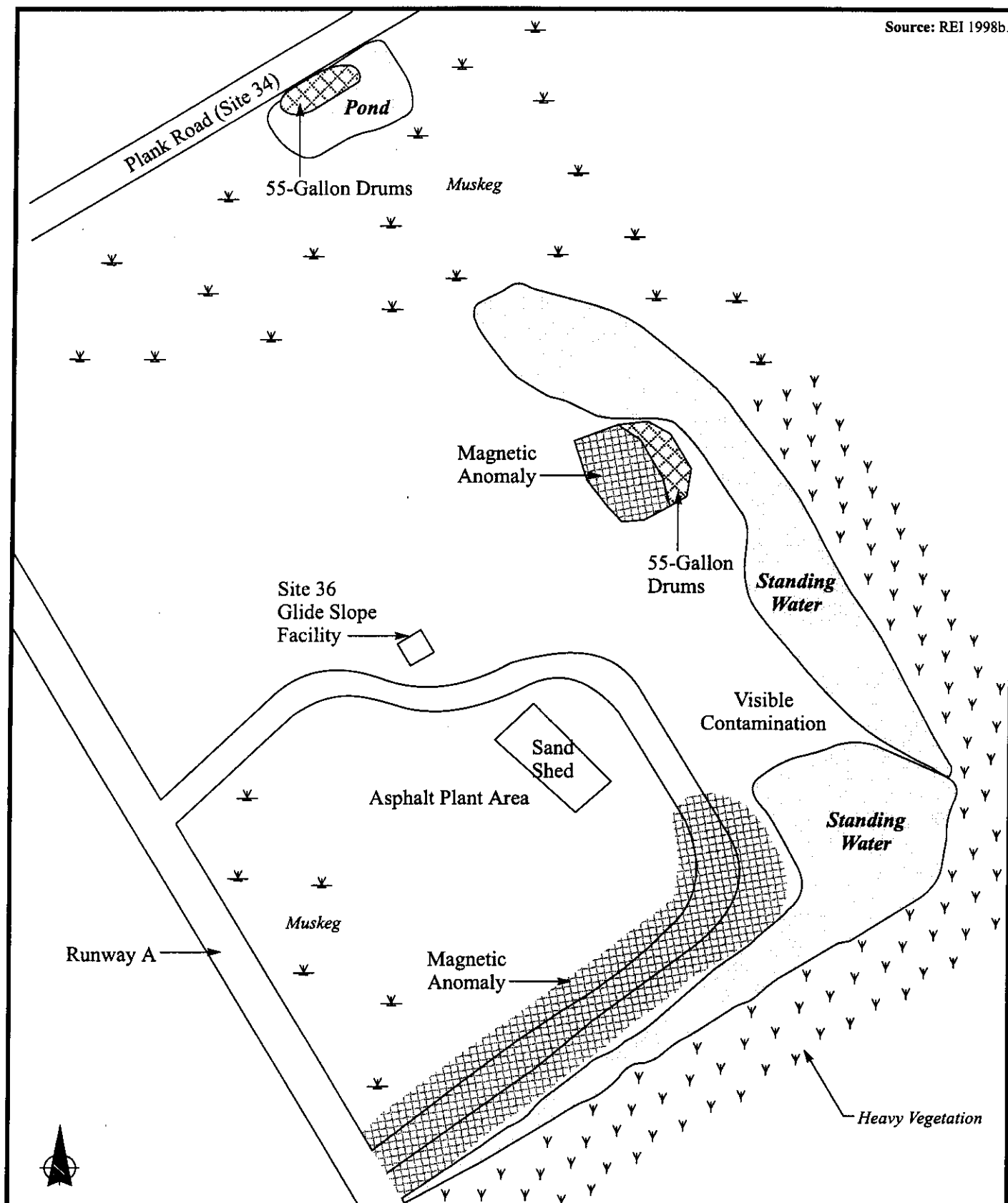
Date:	TDD No.	PAN No.	Dwg. No.	Pubs. No.
12/7/00	00-01-0013	EA1301SIT0	EA1301 3-16	S523

0 1000 2000
Approximate Scale in Feet



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	Not to Scale	Date: 12-7-00	TDD No. 00-01-0013	PAN No. EA1301SIT0	Dwg. No. EA1301 3-17	Pubs. No. S523

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NON-SAMPLING SITE INSPECTION
Annette Island, Alaska**

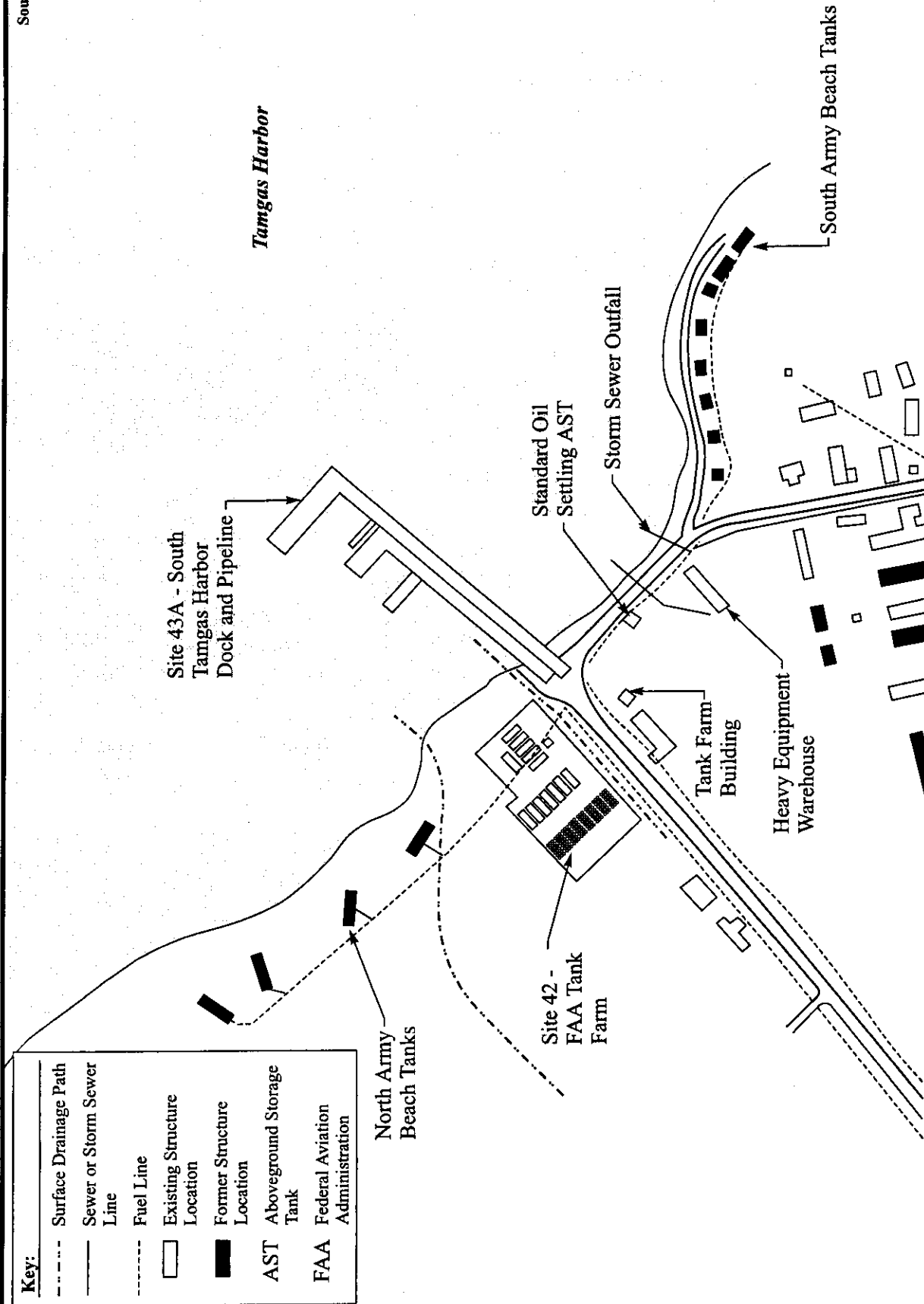
0 100 200
Approximate Scale in Feet

Figure 3-18

**SITE 36 GLIDE SLOPE FACILITY AND
SITE 37 SAND SHED/ASPALT PLANT**

Date: 12-7-00	TDD No. 00-01-0013	PAN No. EA1301SIT0	Dwg. No. EA1301 3-18	Pubs. No. S523
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Drawn by: AES

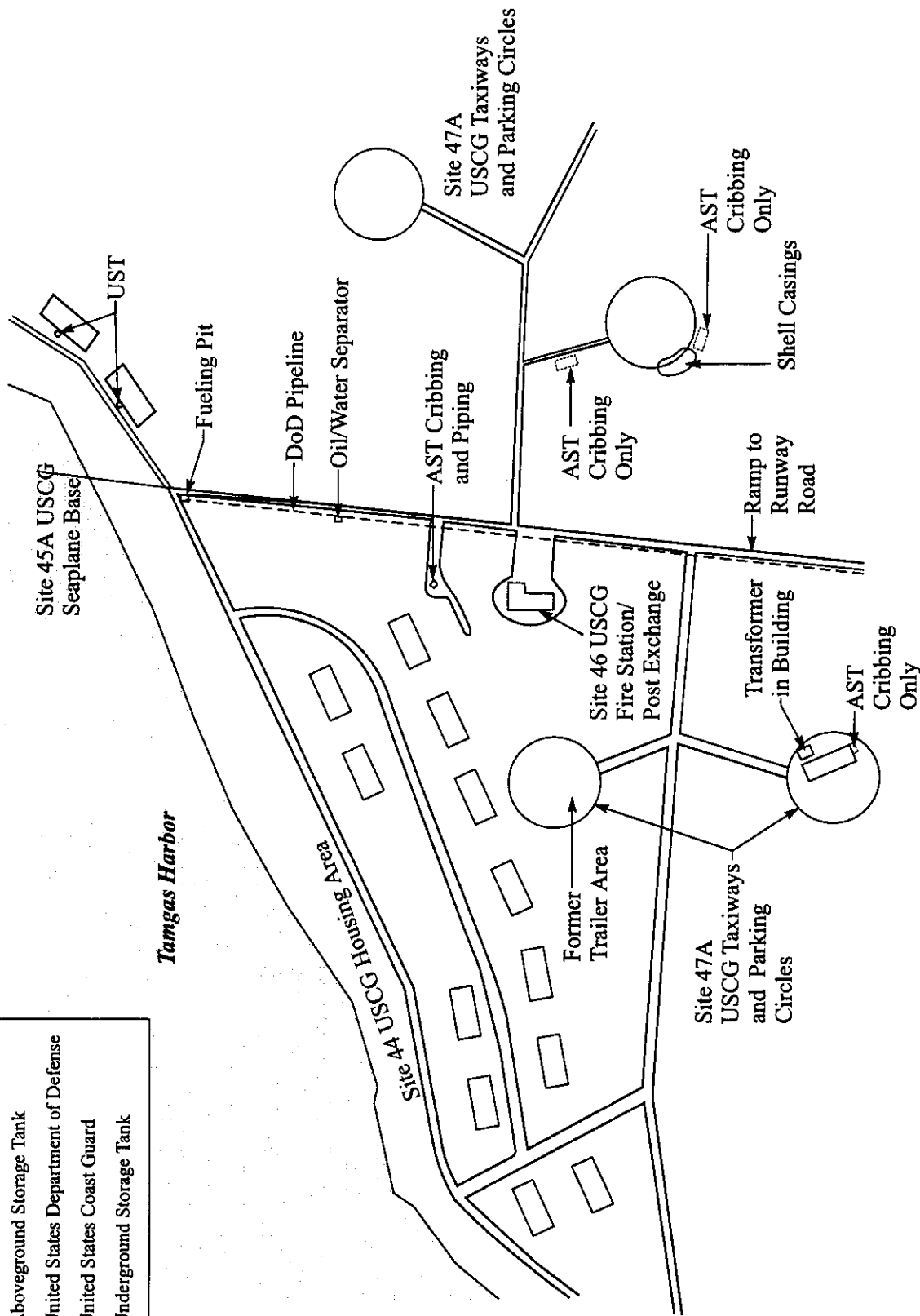


METLAKATLA INDIAN COMMUNITY
 NON-SAMPLING SITE INSPECTION
 Annette Island, Alaska

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Date:	TDD No.	PAN No.	Dwg. No.	Pubs. No.
12/7/00	00-01-0013	EA1301SIT0	EA1301 3-19	S523

Key:	
AST	Aboveground Storage Tank
DoD	United States Department of Defense
USCG	United States Coast Guard
UST	Underground Storage Tank

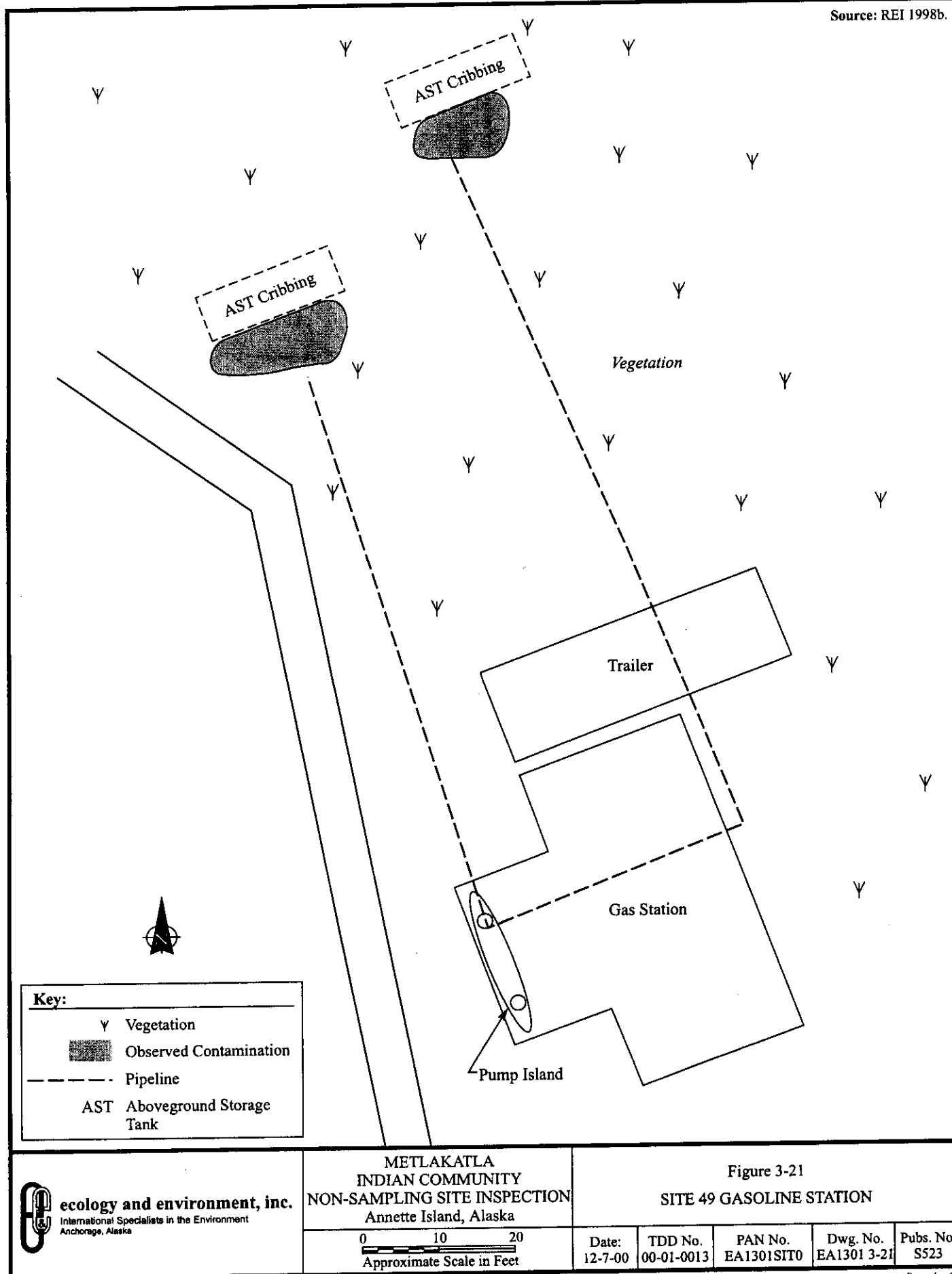


METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
Annette Island, Alaska

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Figure 3-20			
SITE 44 USCG HOUSING, SITE 45A USCG SEAPLANE BASE, SITE 46 USCG FIRE STATION/POST EXCHANGE, AND SITE 47A USCG TAXIWAYS AND PARKING CIRCLES			
Date:	TDD No.	PAN No.	Dwg. No.
12/7/00	00-01-0013	EA1301SIT0	EA1301 3-20
			Pubs. No.
			S523





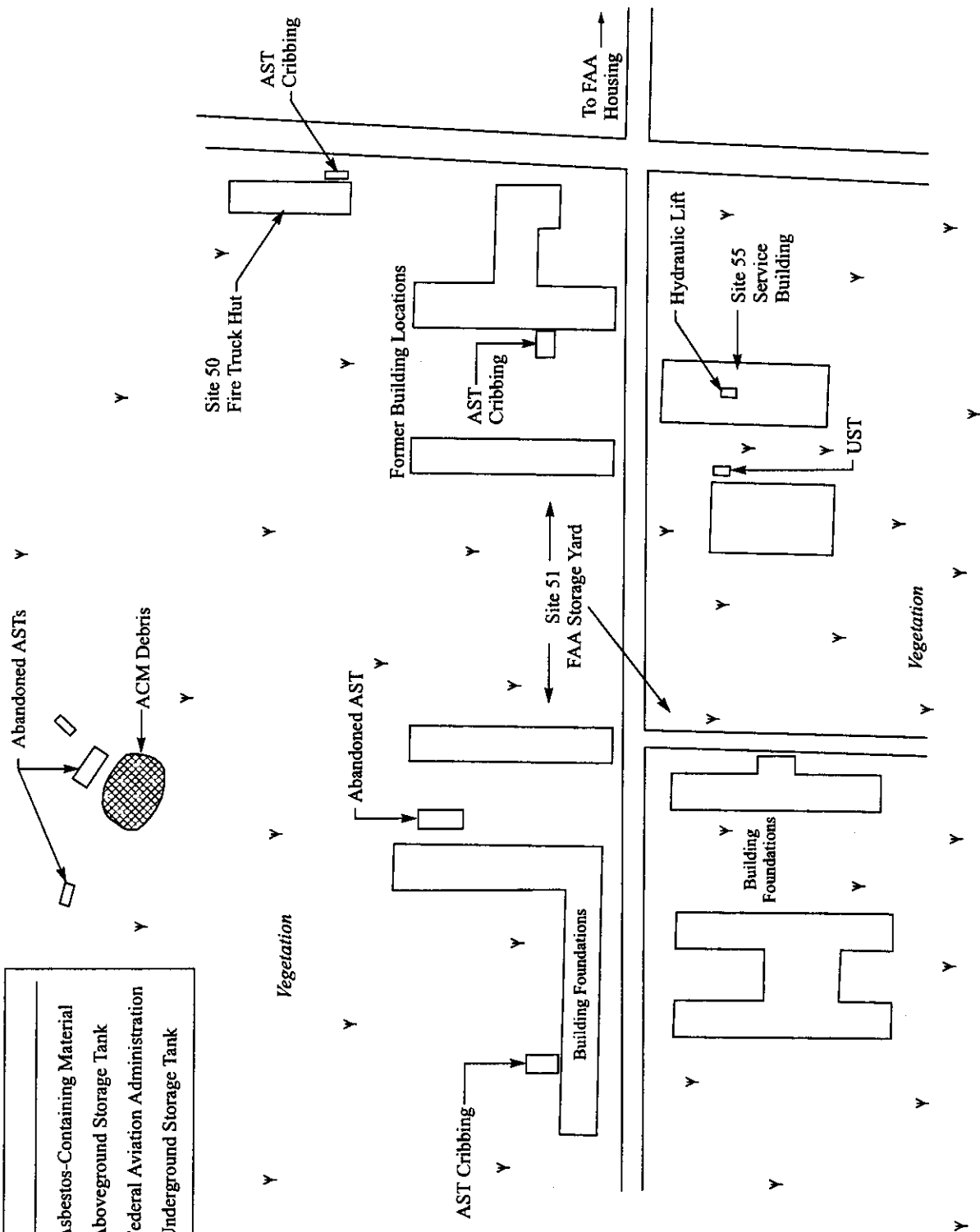


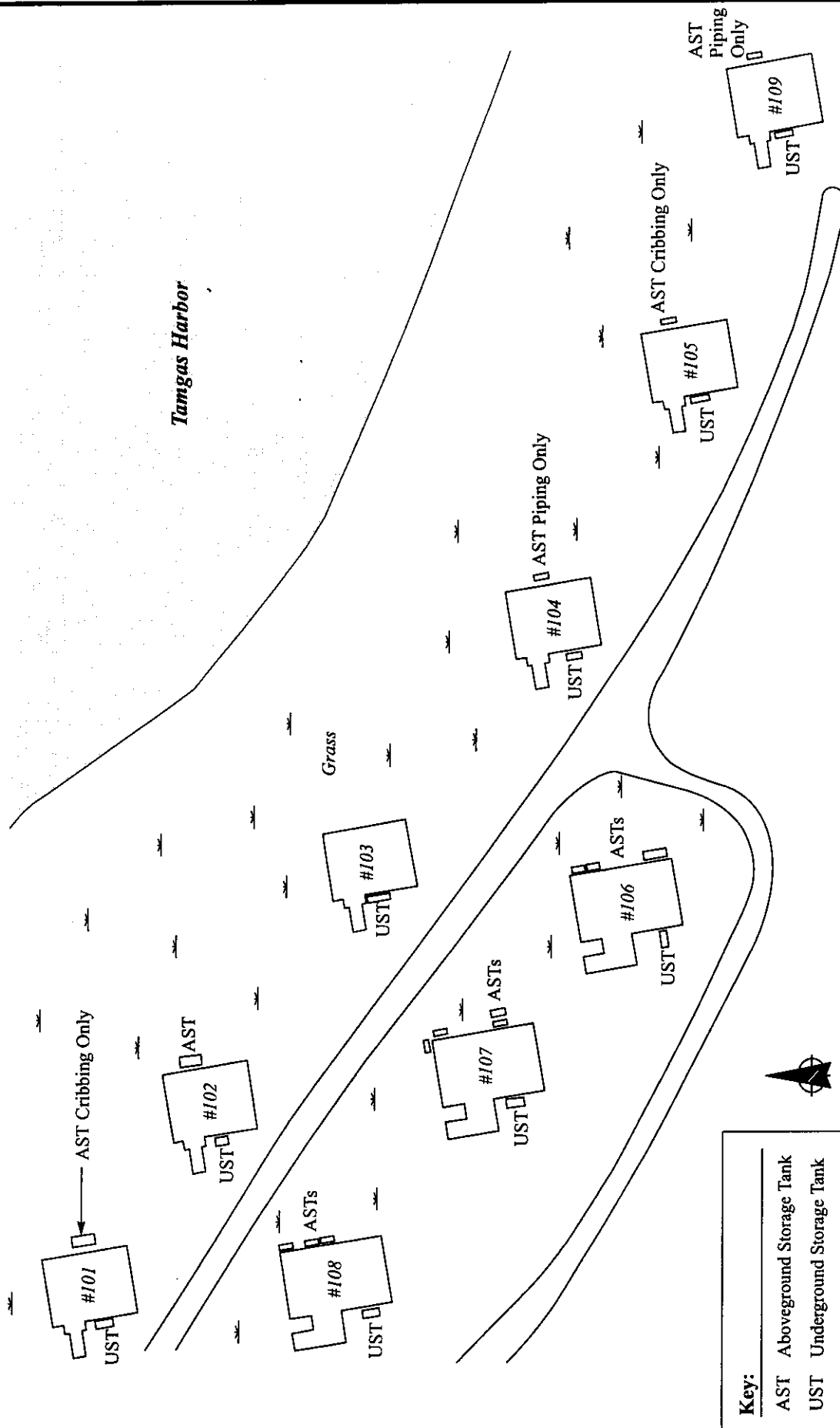
Figure 3-22

METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
Annette Island, Alaska

SITE 50 FIRE TRUCK HUT, SITE 51 FAA STORAGE
YARD, AND SITE 55 FAA SERVICE BUILDING

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Anchorage, Alaska

Date:	TDD No.	PAN No.	Dwg. No.	Pubs. No.
12/7/00	00-01-0013	EA1301SIT0	EA1301 3-22	S523



Key:

- AST Aboveground Storage Tank
- UST Underground Storage Tank
- Grass

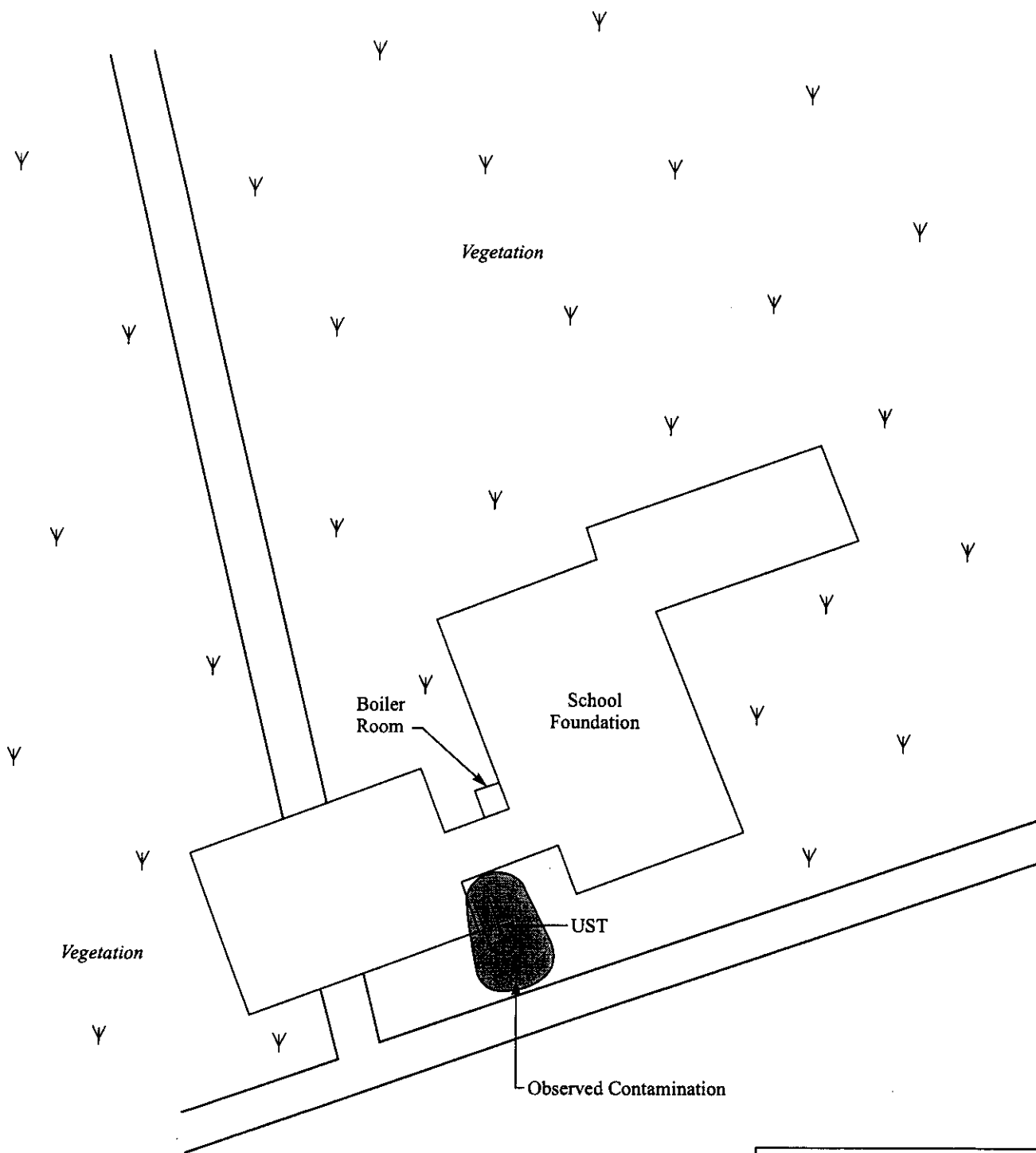


METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
Annette Island, Alaska

Figure 3-23

SITE 53 FEDERAL AVIATION ADMINISTRATION
HOUSING AREA

Date:	TDD No.	PAN No.	Dwg. No.	Pubs. No.
12/7/00	00-01-0013	EA1301SIT0	EA1301 3-23	S523



Key:	
UST	Underground Storage Tank
Y	Vegetation



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Annette Island, Alaska**

0 25 50
Approximate Scale in Feet

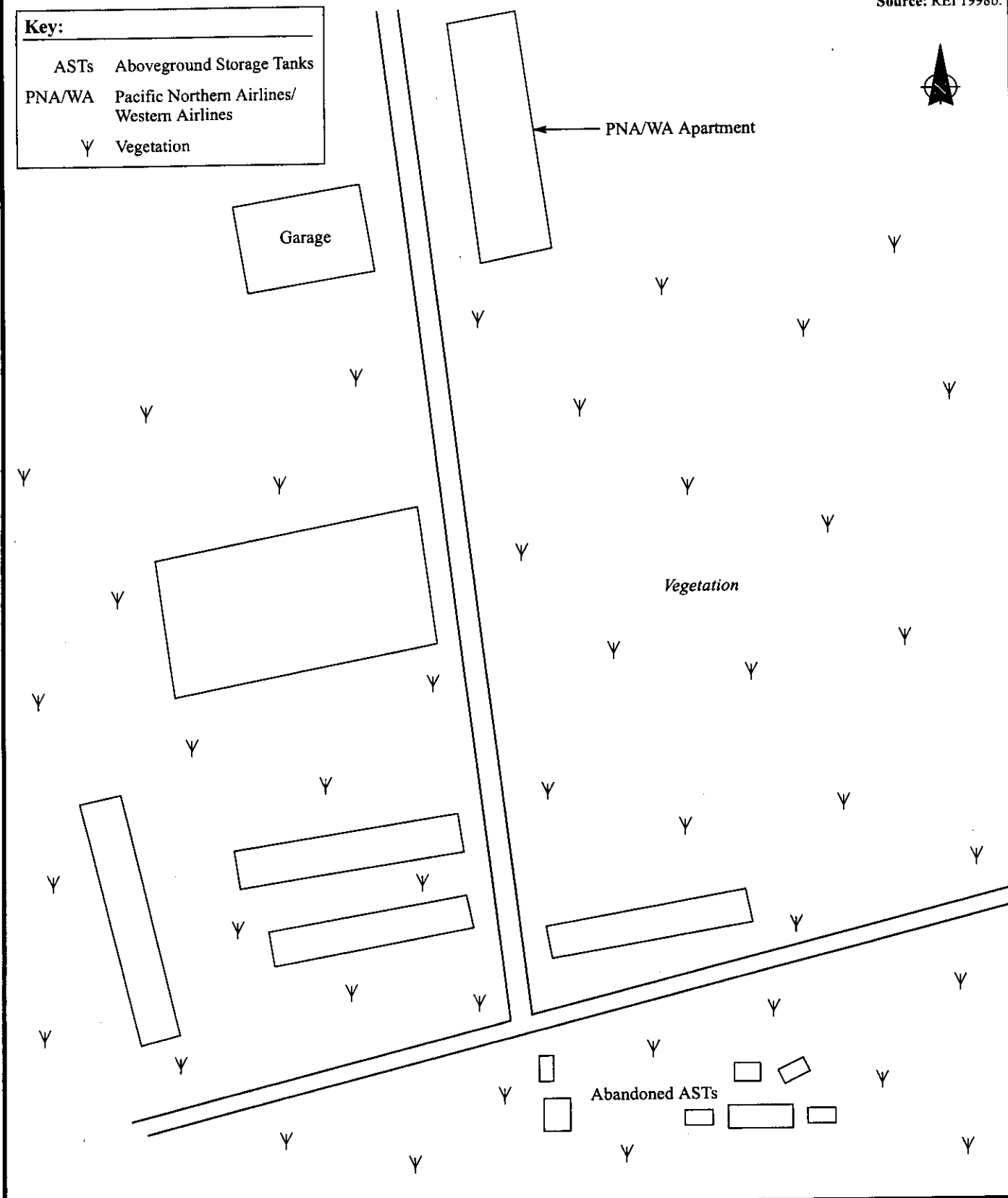
**Figure 3-24
SITE 54 PUBLIC SCHOOL**

Date: 12-7-00	TDD No. 00-01-0013	PAN No. EA1301SIT0	Dwg. No. EA1301 3-24	Pubs. No. S523
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Drawn by: AES

Key:

- ASTs Aboveground Storage Tanks
 PNA/WA Pacific Northern Airlines/
 Western Airlines
 Y Vegetation



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 INDIAN COMMUNITY
 NON-SAMPLING SITE INSPECTION
 Annette Island, Alaska**

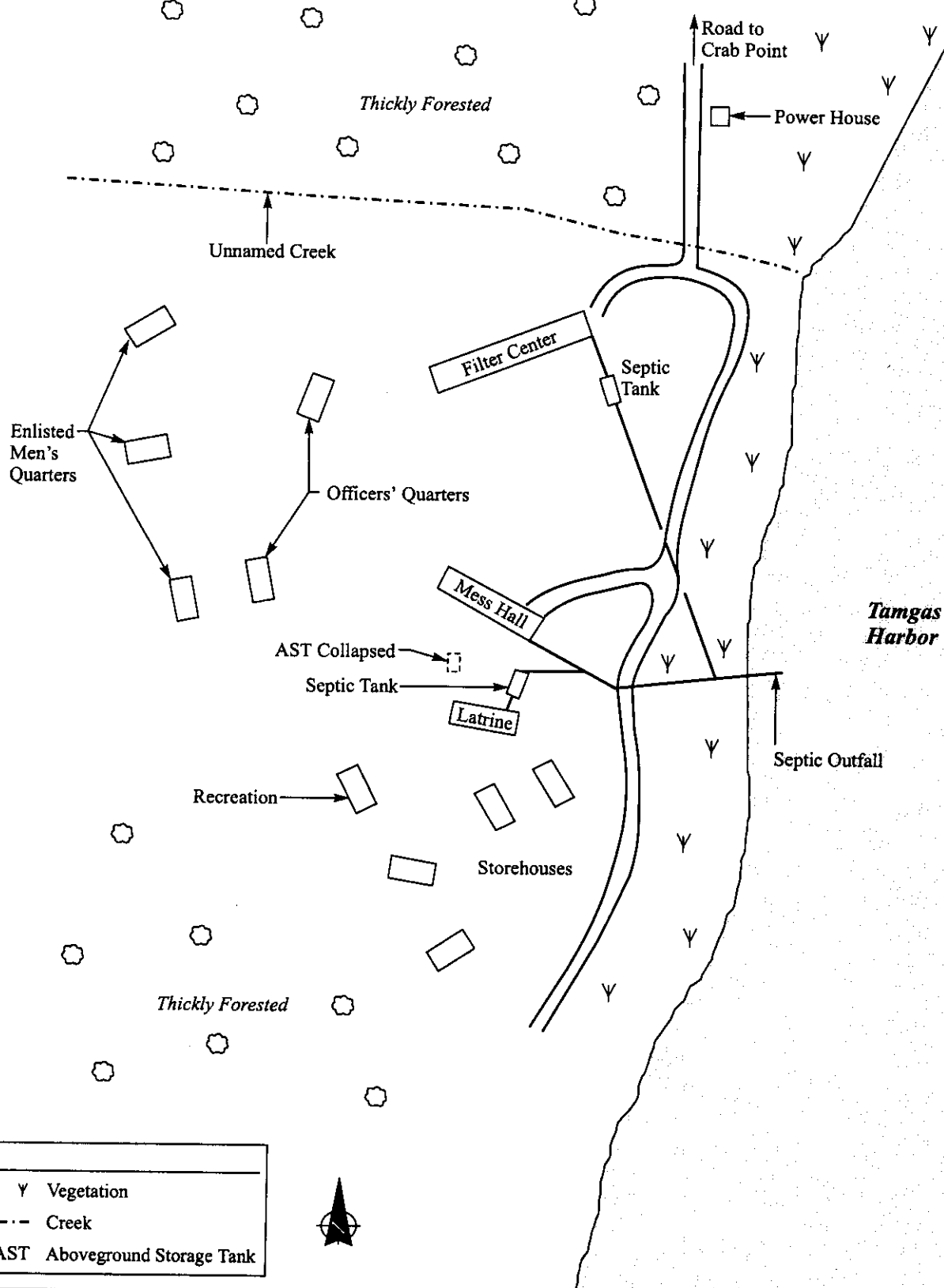
0 25 50
 Approximate Scale in Feet

Figure 3-25

SITE 56 PNA/WA RESIDENTIAL BUILDING

Date: 12-7-00	TDD No. 00-01-0013	PAN No. EA1301SIT0	Dwg. No. EA1301 3-25	Pubs. No. S523
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Drawn by: AES



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NON-SAMPLING SITE INSPECTION
Annette Island, Alaska**

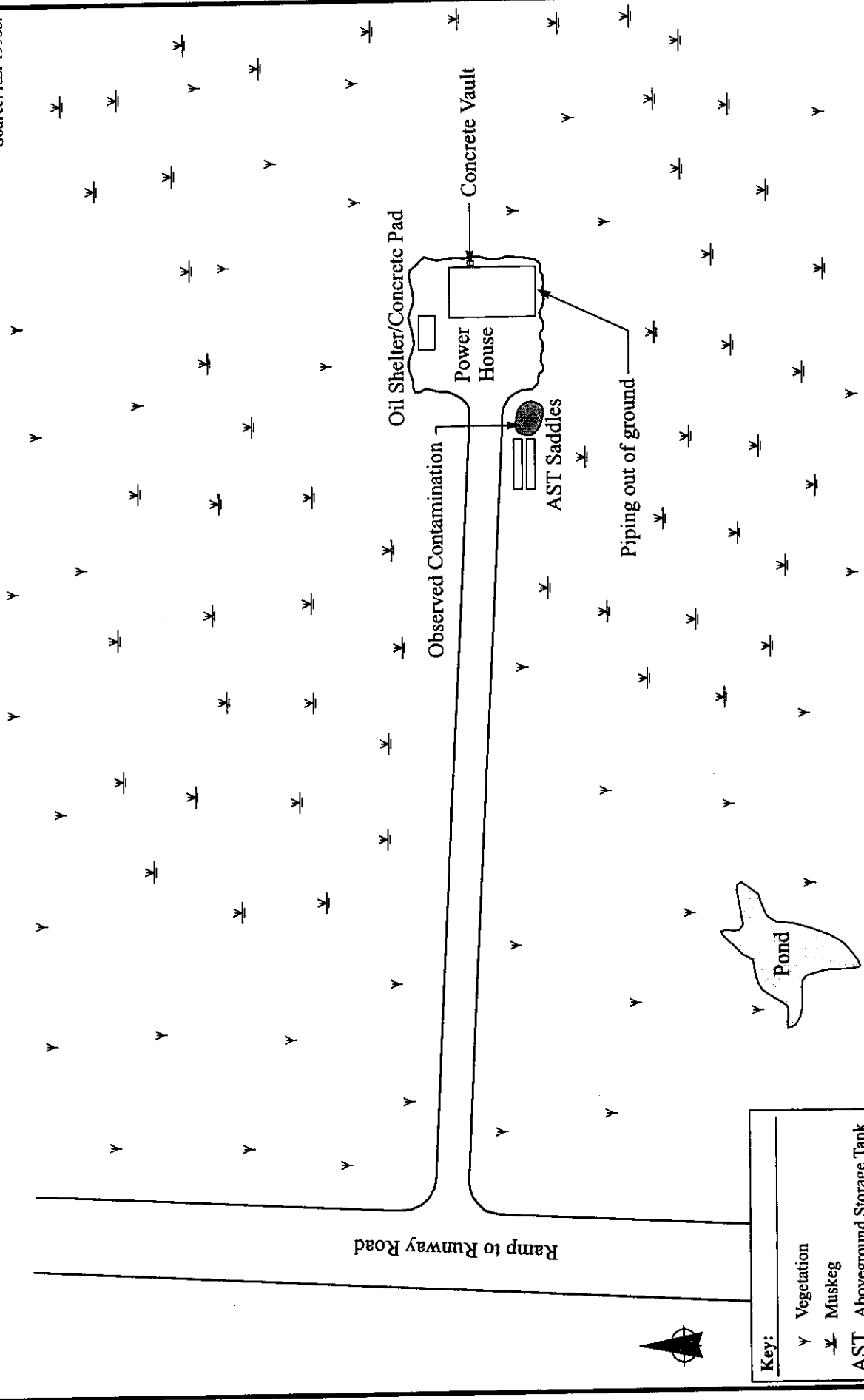
0 50 100
Approximate Scale in Feet

Figure 3-26

SITE 59 AIR WARNING CENTER GARRISON

Date: 12-7-00	TDD No. 00-01-0013	PAN No. EA1301SIT0	Dwg. No. EA1301 3-26	Pubs. No. S523
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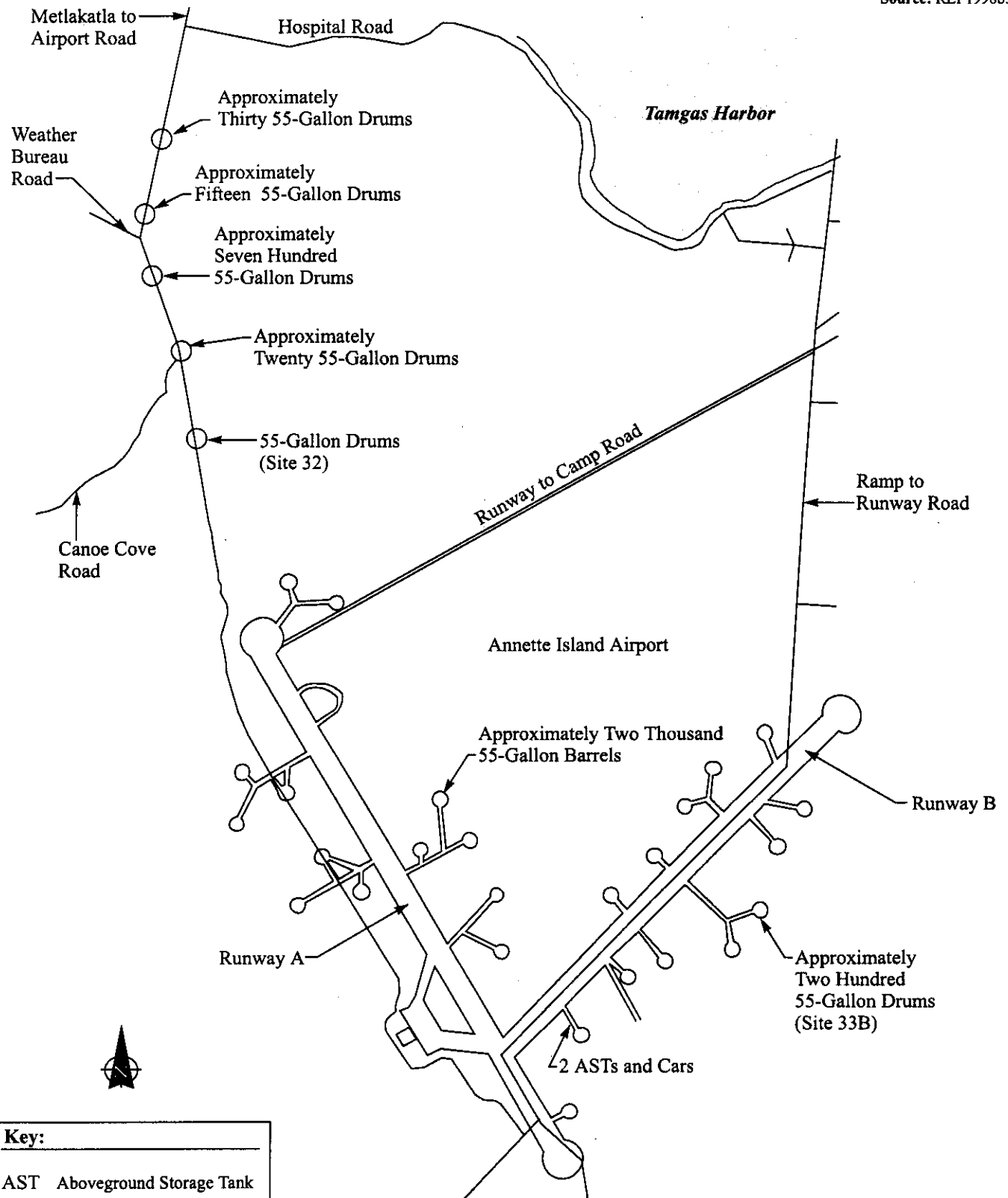
Drawn by: AES



Key:

- Y Vegetation
- Y Muskeg
- AST Aboveground Storage Tank

ecology and environment, inc. <small>International Specialists in the Environment Anchorage, Alaska</small>		METLAKATLA INDIAN COMMUNITY NON-SAMPLING SITE INSPECTION Annette Island, Alaska		Figure 3-27 SITE 62 POWER HOUSE		
		Date: 12/7/00	TDD No. 00-01-0013	PAN No. EA1301SIT0	Dwg. No. EA1301 3-27	Pubs. No. S523



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International Specialists in the Environment
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**METLAKATLA
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Annette Island, Alaska**

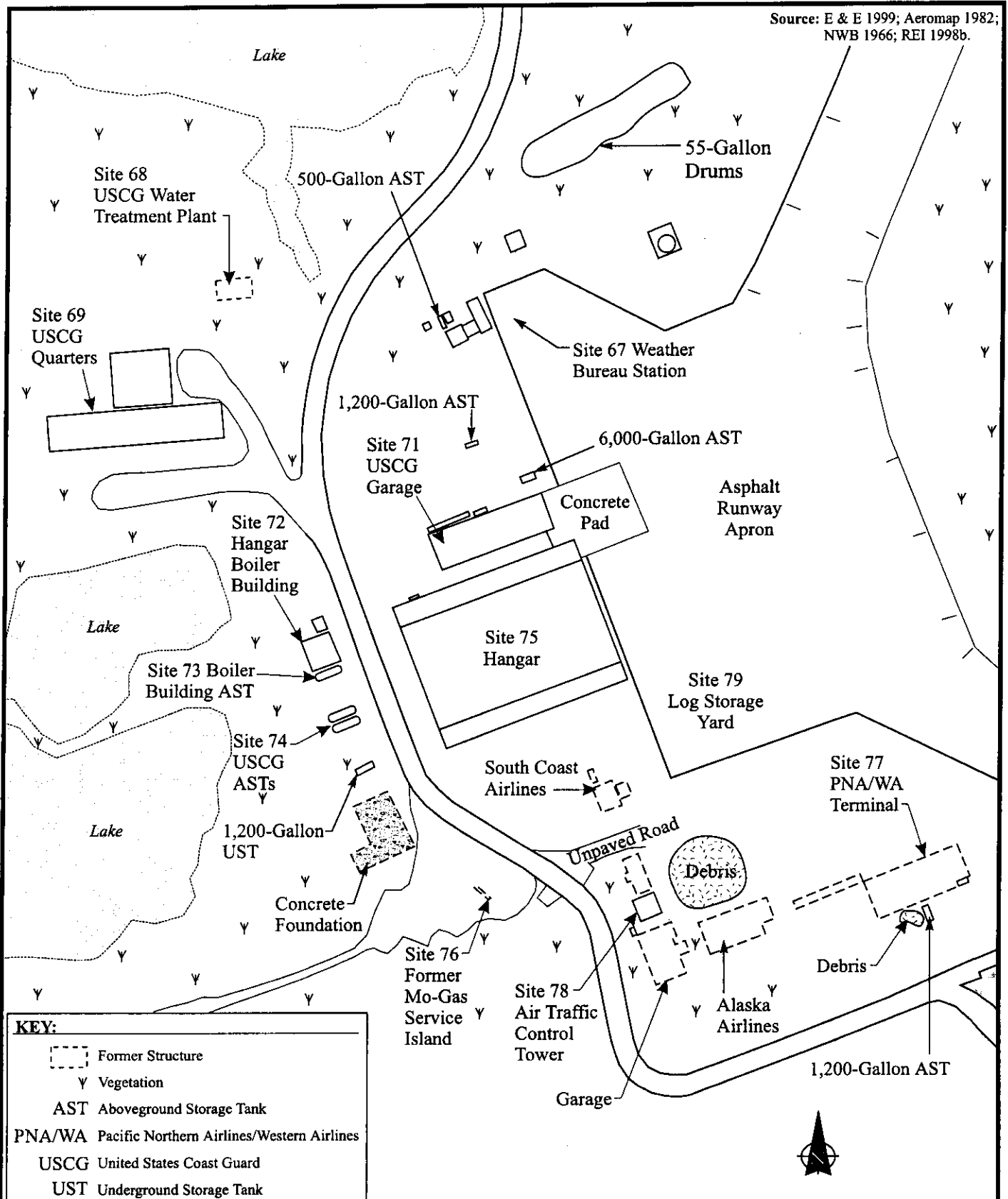
0 1000 2000
Approximate Scale in Feet


Figure 3-28

**SITE 64 RUNWAY TAXIWAYS AND
PARKING CIRCLES**

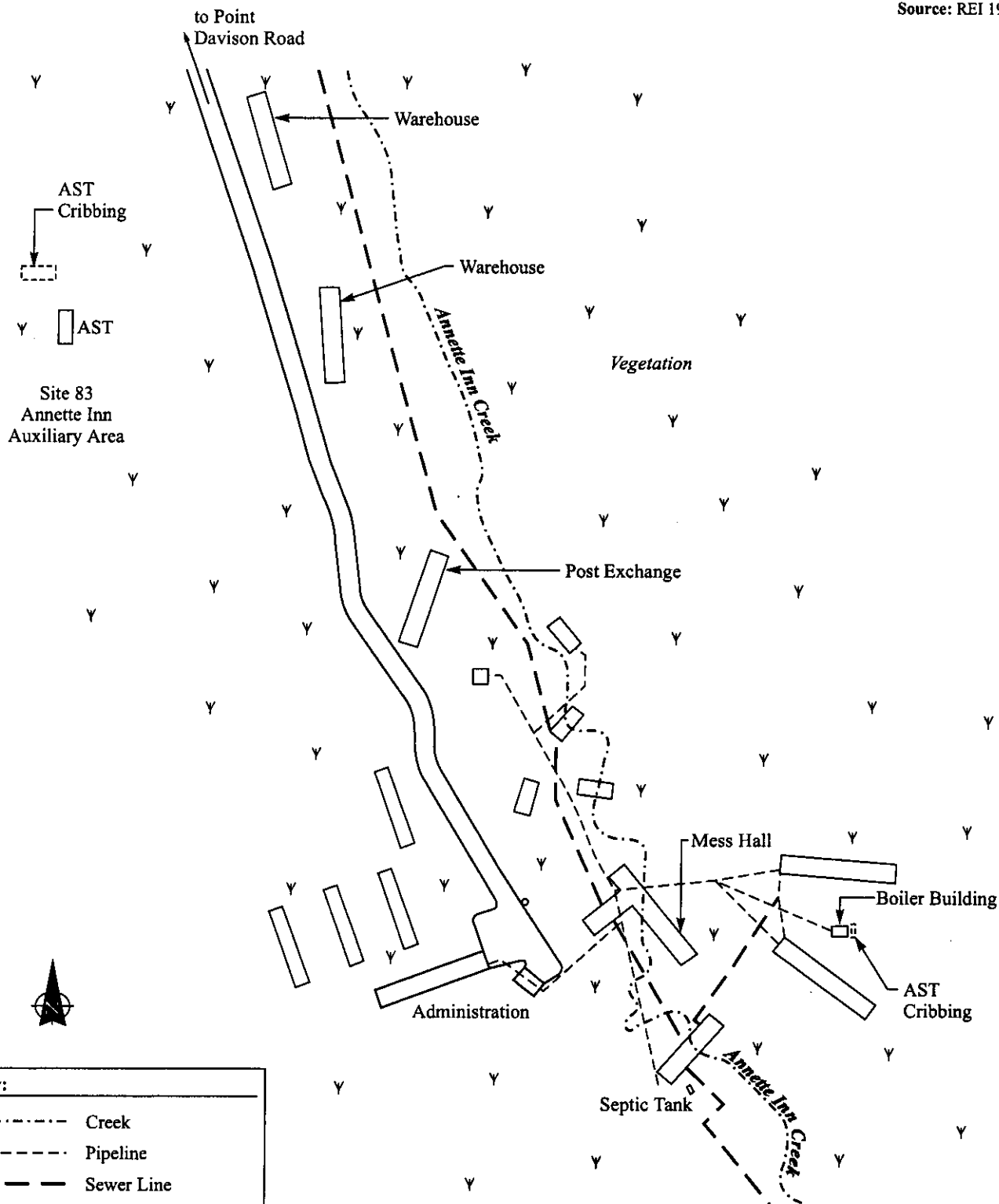
Date: 12-7-00	TDD No. 00-01-0013	PAN No. EA1301SIT0	Dwg. No. EA1301 3-28	Pubs. No. S523
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Drawn by: AES



 <p>ecology and environment, inc. International Specialists in the Environment Anchorage, Alaska</p>	<p align="center">METLAKATLA INDIAN COMMUNITY NON-SAMPLING SITE INSPECTION Annette Island, Alaska</p>		<p align="center">Figure 3-29 HANGAR AREA</p>				
	<p align="center">0 133 266 Approximate Scale in Feet</p>		<p>Date: 12-7-00</p>	<p>TDD No. 00-01-0013</p>	<p>PAN No. EA1301SIT0</p>	<p>Dwg. No. EA1301 3-29</p>	<p>Pubs. No. S523</p>

Drawn by: AES



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International Specialists in the Environment
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**METLAKATLA
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NON-SAMPLING SITE INSPECTION
Annette Island, Alaska**

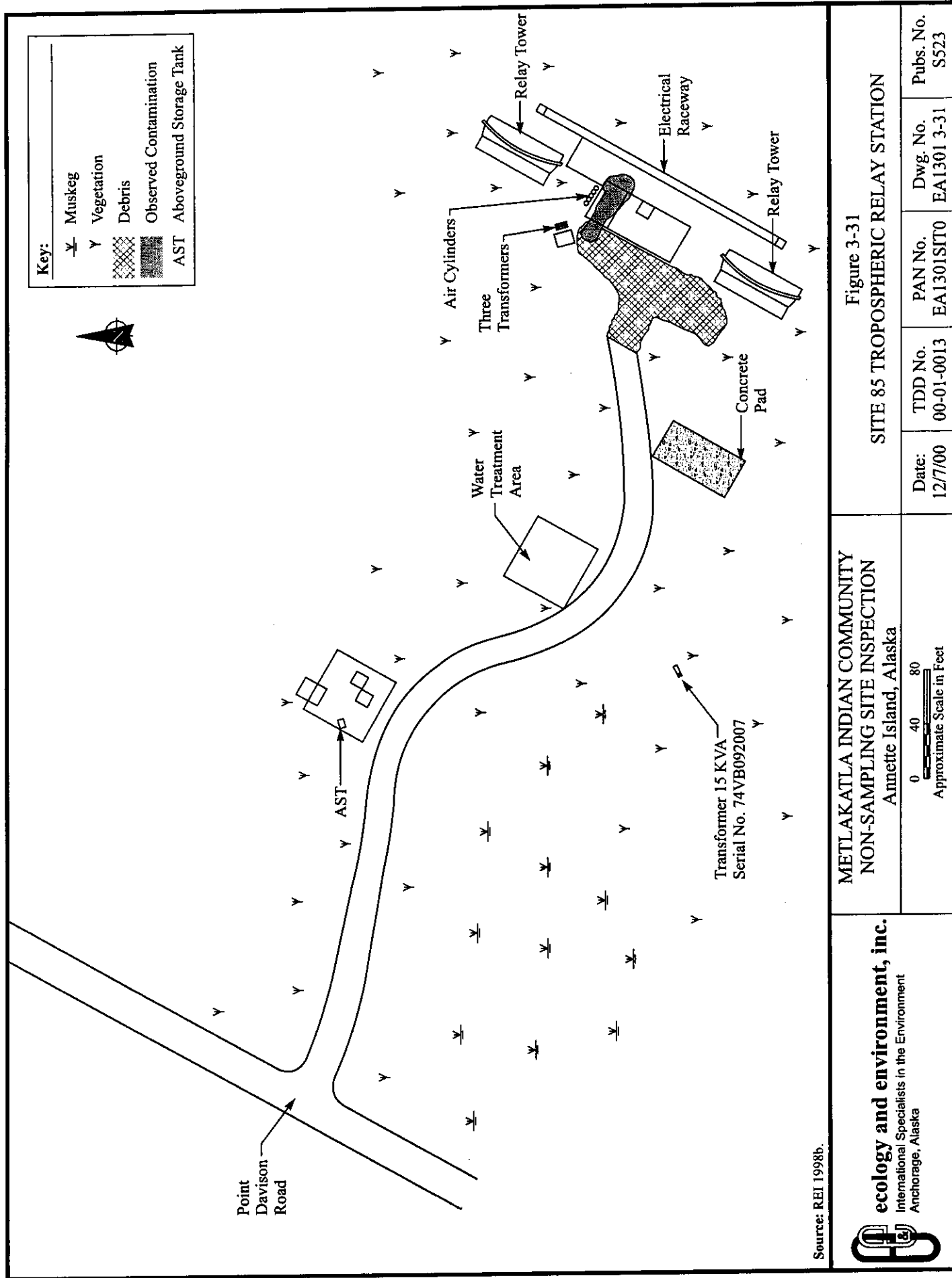
0 100 200
Approximate Scale in Feet

Figure 3-30

**SITE 82 WINNEPEG GARRISON AND
SITE 83 ANNETTE INN AUXILIARY AREA**

Date: 12-7-00	TDD No. 00-01-0013	PAN No. EA1301SIT0	Dwg. No. EA1301 3-30	Pubs. No. S523
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Drawn by: AES



METLAKATLA INDIAN COMMUNITY
 NON-SAMPLING SITE INSPECTION
 Annette Island, Alaska

ecology and environment, inc.
 International Specialists in the Environment
 Anchorage, Alaska

Date: 12/7/00	TDD No. 00-01-0013	PAN No. EA1301SIT0	Dwg. No. EA1301 3-31	Pubs. No. S523
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Drawn by: AES

4. CONCLUSIONS AND RECOMMENDATIONS

The C3 Plan lists more than 100 sites that are being addressed on the Metlakatla Peninsula by various government agencies. Because of the large number of sites, this assessment will focus on those with the greatest potential to impact human health and the environment as defined under CERCLA. Therefore, sites have been categorized into four primary categories: sites with known CERCLA-regulated contamination, sites with possible or suspected CERCLA-regulated contamination, sites excluded from CERCLA regulation, and sites with no known or suspected CERCLA-regulated contamination. The brief site descriptions that follow are intended to provide regulatory agencies with a summary of the site by describing the pertinent environmental concerns and suggesting possible future action. The sites are listed by site number assigned in the C3 Plan; the order in which the sites are presented is not intended to suggest any prioritization of sites for future action. The categorization of sites has been summarized and presented in Table 4-1.

4.1 SITES WITH KNOWN CERCLA-REGULATED CONTAMINATION

A significant number of environmental assessments and analytical sampling has occurred at various sites on Annette Island. As a result, many sites have been characterized and the environmental contaminant and extent of contamination is known. In other cases, limited sampling has occurred; hence, the contaminants present are known but the extent of contamination is uncertain. Therefore, site recommendations will vary considerably, depending on the known CERCLA contaminant and the level of site characterization performed thus far. The sites are further subdivided based on target information.

4.1.1 Sites with Known CERCLA Sources and Known Targets

Site 1 - Water Treatment Plant: Mercury has been documented in on-site surface soil; soil removal activities occurred in 1999 but failed to remove all of the mercury-contaminated soil. Lead is present in groundwater sampled at the site. PCBs are a possible contaminant of concern; a generator building existed on site but the use of transformers or other PCB-containing electrical equipment on site has not been documented. The site is adjacent to Yellow Lake which serves as the primary drinking water source for all residences and workplaces on the peninsula south of the lake. Yellow Lake also

supports populations of cutthroat trout and Dolly Varden. Potential future actions at the site include a complete removal of mercury-contaminated soil and investigation of PCB contamination in on-site soil. Neither activity appears to be included in the C3 Plan restoration efforts.

Site 7 - BIA Road Maintenance Center: Pesticides have been detected in on-site surface soil, possibly as a result of widespread pesticide spraying for mosquito control. Lead-based paint is documented at the site, and lead has been detected in on-site soils at relatively low concentrations; therefore, the presence of lead-contaminated soil as a result of lead-based paint deterioration is uncertain. PCBs are a potential contaminant of concern; transformers from other sites on the island have been abandoned at this site. The PCB concentration in transformer oil has not been documented; two soil samples collected near discarded drums on site did not detect PCBs. The site is an active facility; eight workers regularly occupy the site. Potential future actions at the site include hazard categorization of abandoned 55-gallon drums and drum removal; transformer oil sampling to determine PCB concentrations and transformer removal options; investigation and characterization of pesticide, lead, and PCB soil contamination; and soil removal/remediation activities. Transformer and lead-based paint removal is currently included in the C3 Plan restoration activities.

Site 9 - Power Generation Plant: PCBs have been detected in building drain sediments and in sediments from the creek adjacent to the site. Pesticides have also been detected in creek sediments. The small creek and associated wetlands are the primary targets; the system eventually discharges to Tamgas Harbor, an important subsistence gathering and recreation area. Lead and other inorganics have also been detected in site soil, groundwater, and creek sediments. Residents are believed to regularly use the site; exposure to site contaminants are a concern. Potential future actions at the site include the delineation of PCB-contaminated soil; hazard categorization of abandoned 55-gallon drums; and the removal of transformers, 55-gallon drums, and PCB-contaminated soil. These activities appear to be included in C3 Plan restoration activities.

Site 10 - Automobile Landfill: PCBs, lead, and mercury have been detected in soils downgradient from the landfill. PCBs were detected after a removal action of landfill materials; however, because of the limited number of samples, PCB- and mercury-contaminated soil cannot be delineated at this time. Lead was detected in groundwater between the landfill and an isolated lake adjacent to the site (i.e., Quarry Lake); lead was also detected in Quarry Lake surface water and

sediment. Quarry Lake supports a population of cutthroat trout. Potential future actions at the site include further sampling to delineate the extent of PCB and mercury contamination, along with removal/remediation of all contaminated soil. These activities do not appear to be included in C3 Plan restoration efforts.

Site 15 - White Alice Station: PCBs have been detected in site soils at numerous locations; pentachlorophenol and mercury are also present in site soil. Lead and other inorganics are present in various site matrices. Mercury, pesticides, and PCBs have been detected in sewer system sediments. Surface water on site flows into Smuggler Cove via the septic system and an unnamed creek on the northeast side of the site. Smuggler Cove is an important subsistence harvest and recreation area for MIC residents. Five workers regularly occupy the WAS. Possible future actions at the site include more precise delineation of PCB contamination and a removal/remediation effort to reduce PCB soil concentrations to below risk-based standards. This activity should be protective of human health and the environment for pentachlorophenol and mercury contamination also found at the site. The C3 Plan appears to focus on petroleum-related issues, such as UST and POL-contaminated soil removal.

Site 18 - Main Hospital Area: Pesticides have been detected at the site, but the extent of contamination and the association with site activities is unknown. Lead has been detected in septic system sediment, Tamgas Harbor intertidal sediment, and site groundwater. PCBs are a contaminant of concern because of a powerhouse located at the site. Also, the C3 Plan indicates possible solvent contamination, but a specific source has not been identified. The site is adjacent to Tamgas Harbor, an important subsistence harvest and recreation area for MIC residents; the site septic system discharged directly to Tamgas Harbor. Colby Creek, a known salmon-bearing stream, is located on the south side of the site. Potential future site actions include the investigation of possible PCB contamination because of powerhouse operations. Other actions, including the investigation and removal of POL, solvent, and insecticide contamination, are addressed in the C3 Plan.

Site 19 - Non-Directional Beacon: Dioxins are present in site soils; dioxins, inorganics, and SVOCs have been detected in wetland sediment samples up to Smuggler Cove. The site remains active; FAA leases the facility from the MIC for storage and usage of communication equipment. Wetlands are located east and south of the site. These wetlands drain to the southwest and discharge to Smuggler Cove, an important subsistence gathering and recreation area. Potential future actions include the

investigation of site contaminant migration to Smuggler Cove and the treatment of site contaminants to reduce possible risks to targets. These actions are not currently addressed in the C3 Plan.

Site 33C - Landing Field - Firing Ranges Near Runway B: Lead has been detected at elevated levels in site surface soils; but the extent of lead contamination is not completely delineated. The site has been used by MIC residents as an informal firing range, which is a possible source of the lead contamination. The site is adjacent to a lake which supports coho salmon. Human exposure to site contaminants is a concern. Potential future actions include the investigation of lead contamination at the site, which is currently addressed in the C3 Plan.

Site 42 - FAA Tank Farm: Previous sampling indicates the presence of DDD and DDT in site soils; however, the concentrations were low. The extent of pesticide contamination has not been delineated. Tamgas Harbor, an important subsistence gathering and recreation area for community residents, is located approximately 500 feet from the site. Potential future actions include the investigation of pesticide contamination at the site, which is not specifically addressed in the C3 Plan.

Site 44 - USCG Housing: Asbestos was detected in building materials abandoned on site after the housing units were moved to Sitka. Because access to the site is not restricted, the most significant concern at the site is human exposure to asbestos. Possible future actions at the site include the removal of ACM, which is not currently addressed in the C3 Plan.

Site 69B - USCG Quarters - Structure: Asbestos was detected in building materials. Because access to the site is not restricted, the most significant concern at the site is human exposure to asbestos. Lead-based paint was also used in building materials, but lead-contaminated soil at the site has not been documented. A waste paper incinerator building was also associated with the site; contaminants associated with this building are unknown. A transformer (reportedly PCB-containing but currently labeled non-PCBs) is located next to the quarters building, but is thought to be abandoned from another site on the island. Potential future actions at the site include the removal of ACM and lead-based paint, which are currently addressed in the C3 Plan. Other possible actions at the site include the investigation of PCB contamination related to the transformer and any CERCLA-regulated contamination related to the waste paper incinerator.

Site 71B - USCG Garage - Other: PCBs have been detected at concentrations above risk-based standards in surface soils at the site. Seven PCB-rectifiers and approximately 0.33 cubic yard of stained soil were removed from the site in 1992; however, PCBs have been detected in the soil after this removal action. Lead has been detected in paint used on the building; however, lead contamination at the site resulting from lead-based paint would not be regulated under CERCLA as long as the facility remains active (Field 2000). The most significant concern at the site is sawmill worker exposure to site contaminants. Potential future actions at the site include delineation and removal of PCB-contaminated soil, which is not currently addressed in the C3 Plan.

Site 72 - Hangar Boiler Building: Transformers have been removed from the site over the years, but an inactive transformer remained on site as recently as 1998. PCBs have been detected in surface and subsurface soil at concentrations above risk-based standards. Paint used on the building contains lead; lead and other inorganics have been detected in site soil. Building materials contained asbestos; all ACM was removed from the building in 1998. Therefore, asbestos is no longer a contaminant of concern at the site. A lake and wetland area are located to the west and south of the site; this surface water is isolated and does not support fish. Potential future site actions would include the delineation and removal of PCB-contaminated soil, which appears to be addressed in the C3 Plan.

Site 73 - Boiler Building AST: Pesticides, solvents, and lead have been detected in site soil. Pesticides are present at low concentrations and are unlikely to represent a significant source of contamination; solvents are present at concentrations exceeding the ADEC soil cleanup levels and the EPA, Region 9, PRGs. These contaminants have not been attributed to site activities but are more likely present because of activities at adjacent sites. Lead is likely present because of lead-based paint used on the AST and storage of leaded fuels in the AST. A lake and wetland area are located to the west and south of the site; this surface water is isolated and does not support fish. Potential future actions at the site include the delineation and removal of lead-contaminated soil. Although this activity is not specifically addressed in the C3 Plan, restoration plans include removal of fuel-contaminated soil that will likely remove the majority of lead-contaminated soil.

Site 74 - USCG ASTs: Lead has been detected at elevated concentrations in surface soil; lead is likely present because of lead-based paint used on the tanks or leaded fuel stored in the tanks. Solvents have been detected at concentrations exceeding the ADEC soil cleanup levels and the EPA, Region 9,

PRGs in surface soil. A lake and wetland area are located to the west and south of the site; this surface water is isolated and does not support fish. Potential future actions at the site include the delineation and removal of lead-contaminated soil. Although this activity is not specifically addressed in the C3 Plan, restoration plans include removal of fuel-contaminated soil that will likely remove the majority of lead-contaminated soil.

Site 75 - Hangar: Multiple transformer, concrete, and soil removal actions have occurred at the site. PCBs have been detected at concentrations above the MIC and ADEC soil cleanup levels and the EPA, Region 9, PRGs in surface soil after the removal actions. PCBs have migrated to storm drain sediments. Abandoned transformers remain on site and represent a possible source of PCBs. Lead has been detected in paint samples from the building, thus lead is a contaminant of concern. Pesticides have been detected in surface soil at concentrations exceeding the MIC soil cleanup levels and the EPA, Region 9, PRGs. Sawmill worker exposure to site contaminants is a significant concern. The storm drain is believed to flow into a lake and wetland area located to the west and south of the site; this surface water is isolated and does not support fish. Potential future actions at the site include the delineation and removal of PCB-, pesticide-, and lead-contaminated soil. It is unclear whether this activity is addressed in the C3 Plan; restoration activities include the removal of lead-based paint and miscellaneous PCB spills in the Hangar area.

4.1.2 Sites with Known CERCLA Sources and No Known Targets

Site 14 - Chlorination Building: Asbestos was detected in pipe insulation in the building. Because access to the site is not restricted, the most significant concern at the site is human exposure to asbestos. Building materials also contain lead-based paint; however, lead contamination in the soil has not been investigated. No environmental targets at the site have been identified. Potential future actions at the site include the removal of ACM, which appears to be addressed in the C3 Plan as the entire building is scheduled for removal.

Site 33A - Landing Field: The landing field consists of an asphalt runway oriented northwest to southeast (Runway A) and a gravel runway oriented northeast to southwest (Runway B). Herbicides have periodically been applied to vegetation along the runways, but herbicide soil contamination has not been investigated. Inorganic contaminants, such as lead and mercury, have been detected along the runways. No environmental targets at the site have been identified. Potential future actions at the site

include further delineation of inorganic contamination, the investigation of herbicide-contaminated soil, and the remediation of significant inorganic and herbicide soil contamination. The investigation of soil potentially contaminated by herbicides is currently addressed in the C3 Plan.

Site 77 - PNA/WA Terminal: Lead is present in soil at a concentration above the MIC and ADEC soil cleanup levels and the EPA, Region 9, PRGs; the source of lead is likely lead-based paint used on building materials or storage of leaded fuel in the area. No significant targets at the site have been identified. Potential future actions at the site include the delineation and remediation of lead-contaminated soil. This activity is not explicitly stated in the C3 Plan; however, current restoration activities include the removal of petroleum-contaminated soil that will also likely remove lead contamination.

Site 78 - Air Traffic Control Tower: Miscellaneous debris from the hangar has been abandoned at the site. An active transformer is located under the ATCT. PCBs have been detected in surface soil at concentrations above the MIC soil cleanup levels. Lead has been detected in surface soil at concentrations above the MIC and ADEC soil cleanup levels and the EPA, Region 9, PRGs. Removal actions on site have been related to a UST and associated contaminated soil. No significant targets at the site have been identified. Potential future actions at the site include the delineation and removal of PCB- and lead-contaminated soil, which is not specifically addressed in the C3 Plan.

Site 85 - Tropospheric Relay Station: PCBs, lead, and mercury have been detected in surface soil; PCBs were also detected at an elevated concentration in a wipe sample from the building floor. PCB- and fuel-contaminated soil, fuel tanks, and asbestos were removed from the site in 1999. No significant targets at the site have been identified. CERCLA-regulated contaminants appear to have been removed from the site; therefore, future actions at the site are not necessary.

4.2 SITES WITH POSSIBLE CERCLA-REGULATED CONTAMINATION

A number of sites on Annette Island are possibly affected by CERCLA-regulated contaminants, based on known or suspected operations at the site. However, CERCLA contamination has not been documented because of limited sampling for particular contaminants at various sites. The sites are further subdivided based on target information.

4.2.1 Sites with Possible CERCLA Sources and Known Targets

Site 5 - Municipal Landfill: Numerous organizations and individuals have deposited an assortment of materials in the landfill since the 1940s. Numerous possible CERCLA-regulated contaminants may exist at the landfill. The site is adjacent to a wetland; the creek draining the wetland discharges to Smuggler Cove, an important subsistence gathering and recreation area for MIC residents. The creek also supports pink and coho salmon. Sampling is necessary to identify and delineate possible CERCLA-regulated contaminants and identify the most appropriate methods for remediation. It is unclear whether this activity is included in the C3 Plan; restoration activities include proper closure of the landfill. At the present time, the MIC has received grant money from the BIA to perform interim cleanup activities at the landfill and to investigate waste management alternatives for the community. Also, the MIC is investigating possible grant money from the DOI, Rural Utility Service, for assistance in building a new waste management facility (Meyer 2000).

Site 8 - Bark Disposal Fill Area: The constituents of the wood waste deposited at the site are unknown. If the wood waste consisted wholly of bark material, then no CERCLA-regulated environmental concerns exist at the site. However, if materials deposited at the site resulted from other processes in the pulp manufacturing process, then numerous CERCLA-regulated contaminants could be present. A small stream is located in the area that flows southeast through a series of wetland ponds to Tamgas Harbor, an important subsistence gathering and recreation area. MIC residents are believed to use the area regularly. Limited sampling in the area could identify possible CERCLA-regulated contaminants present as a result of the wood waste; this activity is not currently addressed in the C3 Plan.

Site 24 - Middle Marker Facility: The Middle Marker Facility was built and operated by the FAA as a navigational aid. Electrical equipment used at the site has not been sampled, therefore, PCBs are a contaminant of potential concern. Approximately 100 55-gallon drums, believed to be asphalt material abandoned after paving operations at the airfield, are located south of the site. Gilnet Creek, a salmon-bearing stream, flows through the abandoned drums. Gilnet Creek discharges to Canoe Cove, an important subsistence gathering and recreation area for local residents. Potential future actions at the site include investigation of potential PCB contamination at the site and removal of abandoned drums from Gilnet Creek. Drum removal activities are currently addressed in the C3 Plan.

Site 26 - Canoe Cove Garrison: The garrison facilities on Annette Island were self-sufficient housing areas; thus, a powerhouse of some type was likely located at each garrison site. PCBs are a potential contaminant of concern because of powerhouse operations. Canoe Cove Creek II flows through the site; although the creek does not support fish populations, it serves as a contaminant migration route into Canoe Cove which is a known subsistence gathering and recreation area. Potential future actions at the site include the investigation of possible PCB contamination in the powerhouse area; this activity is not specifically addressed in the C3 Plan.

Site 43B - South Tamgas Harbor Dock - Ordnance: Ordnance have not been discovered in the area; however, the ordnance investigation identified transformers and other debris dumped in the area. Therefore, PCBs are a potential contaminant of concern; however, the effect that ocean currents have on possible contaminant concentration and migration is poorly understood. Tamgas Harbor has been identified as an important subsistence gathering and recreation area; wildlife in the area could be adversely affected by possible CERCLA contamination at the site. Extensive and specialized sampling would be necessary to delineate the presence and extent of possible PCB contamination in Tamgas Harbor as a result of materials dumped from the dock. It is unclear if this activity will occur as part of the C3 Plan.

Site 45B - USCG Seaplane Base - Ramp Ordnance Dive: Ordnance and other materials may have been dumped at the site, but an underwater survey has yet to occur. Therefore, CERCLA-regulated contamination at the site is possible, but contaminants are unknown. Tamgas Harbor has been identified as an important subsistence gathering and recreation area; wildlife in the area could be adversely affected by possible CERCLA contamination at the site. Potential future actions at the site include investigation and characterization of possible sources that will identify more specific future restoration efforts. This activity appears to be partially addressed in the C3 Plan.

Site 47A - USCG Taxiways and Parking Circles: An inactive transformer was observed in a building on site; PCB concentration in the transformer oil or surrounding soil has not been investigated. Therefore, PCBs are a potential contaminant of concern. The site is located approximately 800 feet from Tamgas Harbor, an important subsistence gathering and recreation area for members of the community. Coast Guard Creek, a salmon-bearing stream, is located near the site. Potential future site actions include

the investigation and delineation of possible PCB soil contamination. Transformer removal is included in current C3 Plan restoration activities, but investigation of soil contamination is not addressed.

Site 48 - Main Construction Camp: Although specific activities at the site could not be identified, possible site contaminants are believed to be PCBs, solvents, lead, and asbestos. The site is located approximately 500 feet from Tamgas Harbor, an important subsistence gathering and recreation area for members of the community. Potential future site activities include the identification, delineation, and removal/remediation of site contaminants, all of which appear to be addressed in the C3 Plan.

Site 51 - FAA Storage Yard: PCBs are a potential contaminant of concern because of the presence of electrical equipment. Lead is also a concern because of lead-based paint used at the facility; limited soil sampling indicates lead is present in site soil. The site is located approximately 800 feet from Tamgas Harbor, an important subsistence gathering and recreation area for members of the community. Potential future actions include the investigation and delineation of possible PCB soil contamination; this activity is not addressed in the C3 Plan. Current restoration activities are limited to fuel- and building-related removal actions.

Site 57 - Administration Building: Lead has been identified as a contaminant of concern, likely because of lead-based paint used on building materials. Lead contamination in soil has not been investigated. The site is adjacent to Tamgas Harbor, an important subsistence gathering and recreation area for members of the community. Potential future actions include the investigation of lead-contaminated soil at the site; this activity appears to be addressed in the C3 Plan restoration activities.

Site 58 - DoD Utility Officer Buildings - Quarter Master and Utility Buildings: Lead has been identified as a contaminant of concern, likely because of lead-based paint used on building materials. PCBs are a potential contaminant of concern because a powerhouse may have existed at the site. Solvents are also a potential contaminant of concern based on suspected site operations. Lead, PCB, and solvent contamination in soil has not been investigated. The site is adjacent to Tamgas Harbor, an important subsistence gathering and recreation area for members of the community. Deer Creek, a salmon-bearing stream is located north of the site. Potential future actions include the identification,

delineation, and remediation of possible site contaminants; this activity appears to be addressed in the C3 Plan restoration activities.

Site 59 - Air Warning Center Garrison: The garrison facilities on Annette Island were self-sufficient housing areas; thus, a powerhouse of some type was likely located at each garrison site. PCBs are a potential contaminant of concern due to powerhouse operations. The site is adjacent to Tamgas Harbor, an important subsistence gathering and recreation area for members of the community. Potential future actions at the site include the investigation of possible PCB contamination in the powerhouse area; this activity is not addressed in the C3 Plan, as restoration activities will focus on contamination related to fuel tanks.

Site 66 - High Intensity Light: Asbestos is a potential contaminant of concern because of asbestos wire used at the site; no sampling has occurred to verify contaminant presence. Because site access is not restricted, the most significant concern at the site is human exposure to asbestos. The C3 Plan restoration activities includes the removal of ACM; therefore, no further CERCLA actions are necessary at this site.

Site 81 - Moss Point Garrison: The garrison facilities on Annette Island were self-sufficient housing areas; thus, a powerhouse of some type was likely located at each garrison site. PCBs are a potential contaminant of concern because of powerhouse operations. Also, any number of contaminants could have been dumped in the septic system. The site is located approximately 0.125 mile from the coast; surface water flow at the site is generally toward the southeast. Moss Point Creek (12 cfs) is located south of the site; the creek supports cutthroat trout and pink, chum, and coho salmon. Potential future actions at the site include the investigation of possible PCB contamination; this activity does not appear to be addressed in the C3 Plan, although removal of POL-contaminated soil may address PCB contamination.

Site 82 - Winnipeg Garrison (PAA Housing): The garrison facilities on Annette Island were self-sufficient housing areas; thus, a powerhouse of some type was likely located at each garrison site. PCBs are a potential contaminant of concern because of powerhouse operations. Also, any number of contaminants could have been dumped in the septic system. Annette Inn Creek, a known salmon-bearing creek, flows through the site. Potential future actions at the site include the investigation of possible

PCB contamination; this activity does not appear to be addressed in the C3 Plan, although removal of POL-contaminated soil may address PCB contamination.

Site 83 - Annette Inn Auxiliary Area: The garrison facilities on Annette Island were self-sufficient housing areas; thus, a powerhouse of some type was likely located at each garrison site. PCBs are a potential contaminant of concern because of powerhouse operations. Also, any number of contaminants could have been dumped in the septic system. Annette Inn Creek, a known salmon-bearing creek, flows through the site. Potential future actions at the site include the investigation of possible PCB contamination; this activity does not appear to be addressed in the C3 Plan as activities will focus on solid waste removal.

Site 84 - Tokio Garrison: The garrison facilities on Annette Island were self-sufficient housing areas; thus, a powerhouse of some type was likely located at each garrison site. PCBs are a potential contaminant of concern because of powerhouse operations. Also, any number of contaminants could have been dumped into the septic system. Tokyo Lake, which supports cutthroat trout, is located on the south side of the site; Tokyo Creek flows from the lake and supports chum salmon and possibly cutthroat trout. Potential future actions at the site include the investigation of possible PCB contamination; this activity does not appear to be addressed in the C3 Plan, although removal of POL-contaminated soil may address PCB contamination.

Site 86 - Satellite Tracking Station: Lead is the only known contaminant of concern based on the suspected use of lead-based paint at the site. Davison Lake No. II, which supports cutthroat trout, is located approximately 0.25 mile northeast of the site. Point Davison, located approximately 0.5 mile south of the site, is a known subsistence gathering area for local residents. Investigation of lead-contaminated soil is addressed in the C3 Plan.

Site 87 - Point Davison Garrison: The garrison facilities on Annette Island were self-sufficient housing areas; thus, a powerhouse of some type was likely located at each garrison site. PCBs are a potential contaminant of concern because of powerhouse operations. Also, any number of contaminants could have been dumped into the septic system; solvents are reportedly present in the site septic system. Because of the proximity to the coastline, surface water at the site discharges directly into the ocean. The Point Davison area is a known subsistence gathering location for local residents. Potential future

actions at the site include the investigation of possible PCB and solvent contamination; solvent contamination appears to be addressed in the C3 Plan. PCB contamination does not appear to be addressed in the C3 Plan, although removal of POL-contaminated soil may address PCB contamination.

Site 89 - Trash Dumps Island Wide: A number of CERCLA-regulated contaminants could be associated with trash dumps around the island; however, because disposal records for the dumps are not available, contaminants at the site are unknown. Targets at these sites are not addressed. Potential future actions at the sites include limited sampling to identify the presence of CERCLA contaminants. Current restoration activities at the sites will focus on debris removal and are addressed under this site or under the individual site in which the dump site occurs.

Other Sites - Remote Trailer: Transformers and capacitors were removed in 1997 from a site called the "Remote Trailer." Because of the former presence of electrical equipment at the site, PCBs are a contaminant of concern. The "Remote Trailer" may be synonymous with the Remote Receiver Station (Site 63), but this could not be verified. Targets at these sites are not addressed.

4.2.2 Sites with Possible CERCLA Sources and No Known Targets

Site 2 - Engineer Garrison (Yellow Hill): The garrison facilities on Annette Island were self-sufficient housing areas; thus, a powerhouse of some type was likely located at each garrison site. PCBs are a potential contaminant of concern because of powerhouse operations. No significant targets at the site have been identified. Potential future actions at the site include the investigation of possible PCB contamination in the powerhouse area; this activity is not currently addressed in the C3 Plan.

Site 13 - Abandoned Landfill: Numerous organizations have deposited an assortment of materials into the landfill. Numerous possible CERCLA-regulated contaminants may exist at the landfill. No significant targets at the site have been identified. Sampling is necessary to identify and delineate possible CERCLA-regulated contaminants and to identify the most appropriate methods for remediation. It is unclear whether this activity is included in the C3 Plan; restoration activities include removal and proper disposal of landfill materials.

Site 16 - Antenna Towers: Lead is a contaminant of concern at the site because the towers are known to contain lead-based paint. No significant targets at the site have been identified. Potential

future actions include the investigation of possible lead contamination; lead contamination is not addressed in the C3 Plan.

Site 22 - AACS Station: PCBs are a contaminant of concern because of the use of electrical equipment on site. Lead is also a possible site contaminant because of lead-based paint associated with building materials. Asbestos may be present as a result of abandoned building materials. No significant targets at the site have been identified. Potential future actions include the investigation of PCB contamination at the site. Other site contaminants, such as lead and asbestos, are addressed in the C3 Plan.

Site 23 - ACS Station: PCBs are a possible contaminant of concern because of electrical equipment operated on site. No significant targets at the site have been identified. Potential future actions include investigation of PCB contamination at the site; it is unclear if PCBs are specifically addressed in the C3 Plan as it indicates the need for additional soil sampling to identify site sources.

Site 25 - Approach Lighting System: PCBs are a potential contaminant of concern because of the use of transformers and other electrical equipment on site. All transformers and capacitors at the site were removed in 1996. No significant targets at the site have been identified. Potential future actions include the investigation of PCB contamination at the site, which is not currently addressed in the C3 Plan.

Site 32 - SALSR: PCBs are a potential contaminant of concern due to the use of transformers and other electrical equipment on site. Transformer oil sampling confirms that PCB-containing oil was used in site electrical equipment. All transformers, capacitors, and circuit breakers were removed from the site in 1995. Lead is also a contaminant of concern because lead-based paint was used in building materials on site. No significant targets at the site have been identified. Potential future actions include the investigation of PCB and lead contamination at the site, which is not currently addressed in the C3 Plan.

Site 35 - Small Tower: Lead is the main contaminant of concern at the site because of the use of lead-based paint on the tower. No significant targets at the site have been identified. Potential future

actions include the investigation of lead contamination at the site. The tower is scheduled for removal, but identifying lead contamination in soil is not currently addressed in the C3 Plan.

Site 36 - Glide Slope Facility: Lead is the main contaminant of concern at the site due to the use of lead-based paint on building materials. PCBs are a potential contaminant of concern due to the use of electrical equipment on site; however, transformer oil sampling indicated that oil used in some electrical equipment was not PCB-containing material. Some transformers were removed from the site in 1994 and 1995; however, other electrical equipment appears to have been abandoned at the site. No significant targets at the site have been identified. Potential future actions include the investigation of PCB and lead contamination at the site, which is not currently addressed in the C3 Plan.

Site 38 - DoD Sawmill: Presence of CERCLA-regulated contaminants at the site is unknown; however, it is likely that some sort of wood preservative like pentachlorophenol or creosote was used in sawmill operations. No significant targets at the site have been identified. Limited sampling in the area could identify possible CERCLA-regulated contaminants and provide a framework for future site restoration; this activity appears to be included in the C3 Plan.

Site 60 - Receiver Station: A generator was formerly located on site; thus PCBs are a potential contaminant of concern. Lead is also a potential contaminant of concern because lead-based paint was likely used on building materials. Lead and PCB contamination in soil has not been investigated. No significant targets at the site have been identified. Potential future site actions include the investigation, delineation, and remediation of PCB- and lead-contaminated soil; this activity is not addressed in the C3 Plan as current restoration activities focus on removing lead-based paint materials.

Site 61 - 71st Garrison: The garrison facilities on Annette Island were self-sufficient housing areas; thus, a powerhouse of some type was likely located at each garrison site. PCBs are a potential contaminant of concern because of powerhouse operations. Also, 55-gallon drums of PCB-containing oil were reportedly buried on site. No significant targets at the site have been identified. Potential future actions at the site include the investigation of possible PCB contamination; this activity does not appear to be addressed in the C3 Plan.

Site 62 - Power House: PCBs are a possible contaminant of concern because of electrical equipment and power house operations. Seven PCB-containing transformers were removed from the site in 1992. PCB concentration in soil has not been investigated. Lead is also a contaminant of concern because lead-based paint was probably used on building material; limited soil sampling indicates that lead is present in site soil. No significant targets at the site have been identified. Potential future site actions include the delineation and remediation of PCB-contaminated soil; this activity is currently not addressed in the C3 Plan as restoration activities will focus on fuel contamination.

Site 63 - Remote Receiver Station: PCBs and lead are potential contaminants of concern due to electrical equipment and lead power lines located on site. Lead-based paint was also likely used on site buildings and towers. No significant targets at the site have been identified. Potential future site actions include the delineation and remediation of PCB- and lead-contaminated soil; this activity is currently not addressed in the C3 Plan as restoration activities will focus on hazardous debris removal.

Site 68 - USCG Water Treatment Plant: PCBs are a contaminant of concern because of an apparent transformer pad on site and a PCB-containing transformer observed on site as recently as 1999. Lead is a potential contaminant of concern because of lead-based paint used in building materials. No significant targets at the site have been identified. Potential future site actions include the delineation and remediation of PCB- and lead-contaminated soil; this activity is currently not addressed in the C3 Plan as restoration activities will focus on hazardous debris removal.

Site 80 - Localizer: PCBs are a possible contaminant of concern because transformers were used on site; the five small transformers were removed in 1994. Lead and asbestos are contaminants of concern due to suspected use of them in building materials at the site. No significant targets at the site have been identified. Potential future site actions include the delineation and remediation of PCB- and lead-contaminated soil; this activity is currently not addressed in the C3 Plan as restoration activities will focus on hazardous debris removal.

4.3 SITES EXCLUDED FROM CERCLA REGULATION

Many sites on Annette Island have documented or possible contamination that could result in a possible threat to human health or the environment; however, the particular contaminants are not regulated under CERCLA. The most common example of this is a site contaminated with known or

suspected petroleum products or petroleum-related contaminants; petroleum contamination is typically excluded from CERCLA (Sections 101 [14] and [33]). The following sites fall under the petroleum exclusion clause of CERCLA:

- Site 3 - 6-Inch Guns and Garrison; Site 12 - North Tamgas Harbor Tank Farm; Site 21 - Remote Communications Air-Ground Facility; Site 33B - Former USCG Storage Area; Site 34 - Runway to Camp Road (Plank Road); Site 37 - Sand Shed/Asphalt Plant; Site 39A and B - Fuel Pipeline System; Site 40 - Pipeline Oil/Water Separators; Site 41 - Tanker Truck Loading Facility - Tank Farm; Site 43A - South Tamgas Harbor Dock - Dock and Pipeline; Site 45A - USCG Seaplane Base; Site 49 - Gasoline Station; Site 50 - Fire Truck Hut; Site 53A - FAA Housing Area - POL and Tanks; Site 54 - Public School; Site 55 - FAA Service Building; Site 56A - PNA/WA Residential Building - Three 80,000-Gallon ASTs; Site 64 - Runway Taxiways and Parking Circles; Site 67 - Weather Bureau Station - Near Hangar; Site 69A - USCG Quarters - POL; Site 76 - Trailer (Former MoGas - Gas UST Service Island); Site 79 - Log Storage Yard; Site 90A - Fuel Dump Sites (Drums) - Island Wide; and Site 90B - Debris/Empty Drums.

Another CERCLA exclusion applicable to sites on Annette Island is the exclusion of active facilities with known asbestos or lead-based paint hazards. Asbestos hazards at active facilities are typically regulated under the Asbestos Hazard Emergency Response Act (a 1986 addition to the Toxic Substances Control Act) or the Occupational Safety and Health Administration (OSHA). Lead-based paint hazards at active facilities are commonly regulated by OSHA. Asbestos and lead-based paint are not regulated under CERCLA unless it poses a threat to human health or the environment at an inactive facility (Field 2000). The following sites are excluded from CERCLA regulation because they are active facilities and the only known contaminant is asbestos:

- Site 20 - Weather Bureau Housing; Site 27 - VORTAC Facility; Site 29 - Directional Finder Antenna; Site 53B - FAA Housing Area - Lead and Asbestos; Site 56B - PNA/WA Residential Building - Lead and Asbestos; and Site 71A - USCG Garage - Asbestos.

4.4 SITES WITH NO KNOWN OR SUSPECTED CERCLA CONCERNS

A number of sites on Annette Island require no further action under CERCLA. At these sites, CERCLA contamination is either not present based on previous sampling efforts or is not suspected based on current knowledge of past site activities. It is possible that these sites could become CERCLA concerns if new information suggests CERCLA-regulated contaminants are present. Currently, the sites requiring no further action under CERCLA include:

- Site 4 - Quarry; Site 6 - Shell Storage Bunker; Site 11 - Supply Dock; Site 17 - Beach Access Road; Site 28 - Water Tanks; Site 30 - Satellite Station; Site 31 - Underground Fuse Magazines; Site 46 - USCG Fire Station/Post Exchange; Site 47B - USCG Taxiways and Parking Circles - Ordnance Survey; Site 52 - Waste Water Treatment Pond; Site 65 - Runway Fortifications; Site 70 - Beacon Tower; Site 88 - Burned Buildings; Site 91 - Hotspur Island; Site 92 - Callaghan Island; and Site 93 - Warburton Island.

Table 4-1

SITE SUMMARIES
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA

Site Number	Lead Agency	Site Name	Site Contaminants	CERCLA Regulated	Comments
1	FUDS	Water Treatment Plant	Mercury; lead; possible PCBs	Yes	Mercury switch and soil removal in 1999.
2	DoD	Engineer Garrison (Yellow Hill)	Possible PCBs; other unknown contaminants	Possible	No environmental targets have been identified.
3	FUDS	6-inch Guns and Garrison	Possible POL	No	Petroleum exclusion.
4	—	Quarry	None suspected	No	No environmental targets have been identified.
5	FAA	Municipal Landfill	Unknown	Possible	Wetland adjacent to site; creek draining the wetland supports salmon; creek discharges to Smuggler Cove (important subsistence harvest area).
6	—	Shell Storage Bunker (2)	None suspected	No	No environmental targets have been identified.
7	BIA	BIA Road Maintenance Center	Pesticides, lead, and possible PCBs	Yes	Active facility.
8	BIA	Bark Disposal Fill Area	Unknown	Possible	Small stream adjacent to site.
9	BIA	Power Generation Plant	PCBs; pesticides; lead and other inorganics	Yes	Small stream adjacent to site with documented site contaminants in sediment.
10	FAA	Automobile Landfill	Mercury; PCBs	Yes	Drum and metal debris removal in 1999.
11	—	Supply Dock	None suspected	No	No environmental targets have been identified.
12	BIA	North Tamgas Harbor Tank Farm	POL	No	Petroleum exclusion.
13	BIA	Abandoned Landfill	Numerous possible unknown contaminants	Possible	No environmental targets have been identified.
14	FAA	Chlorination Building	Asbestos	Yes	No environmental targets have been identified; human access is not restricted.
15	DoD	White Alice Station	PCBs, pesticides, pentachlorophenol, mercury, lead and other inorganics	Yes	Smuggler Cove (subsistence gathering and recreation area) close to site.

Key is at the end of the table.

Table 4-1 (CONTINUED)

SITE SUMMARIES
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA

Site Number	Lead Agency	Site Name	Site Contaminants	CERCLA Regulated	Comments
16	FAA	Antenna Towers	Possible lead	Possible	No environmental targets have been identified.
17	—	Beach Access Road	None suspected	No	No environmental targets have been identified.
18	FUDES	Main Hospital Area	Pesticides; solvents; lead and other inorganics; possible PCBs	Yes	Colby Creek (salmon-bearing stream) and Tamgas Harbor (subsistence gathering and recreation area) adjacent to site.
19	FAA	Non-Directional Beacon	Dioxins	No	Dioxins present in soil above EPA Region 9, Preliminary Remediation Goals
20	NWB	Weather Bureau Housing	Asbestos and lead	No	Asbestos and lead-based paint contamination at active facilities regulated under OSHA.
21	FAA	Remote Communications Air-Ground Facility	POL	No	Petroleum exclusion.
22	FAA	AACS Station	Possible PCBs, lead, and asbestos	Possible	No environmental targets have been identified.
23	FAA	ACS Station	Possible PCBs	Possible	No environmental targets have been identified.
24	FAA	Middle Marker Facility	Possible PCBs	Possible	Gilnet Creek, which supports pink, chum, and coho salmon, flows through the site.
25	FAA	Approach Lighting System	Possible PCBs	Possible	No environmental targets have been identified.
26	FUDES	Canoe Cove Garrison	Possible PCBs	Possible	Canoe Cove Creek II flows through site and discharges to Canoe Cove (known subsistence gathering and recreation area).
27	FAA	VORTAC Facility	Asbestos and lead	No	Asbestos and lead-based paint contamination at active facilities regulated under OSHA.
28	FAA	Water Tanks	None suspected	No	No environmental targets have been identified.
29	FAA	Directional Finder Antenna	Asbestos and lead	No	Asbestos and lead-based paint contamination at active facilities regulated under OSHA.

Key is at the end of the table.

Table 4-1 (CONTINUED)

SITE SUMMARIES
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA

Site Number	Lead Agency	Site Name	Site Contaminants	CERCLA Regulated	Comments
53A	FAA	FAA Housing Area – POL and Tanks	POL	No	Petroleum exclusion; lead present at site likely because of leaded fuels.
53B	BIA	FAA Housing Area – Lead and Asbestos	Lead and asbestos	No	Site used for housing and offices. Asbestos and lead-based paint contamination at active facilities regulated under OSHA.
54	BIA	Public School	POL	No	Petroleum exclusion; lead present at site likely because of leaded fuels.
55	FAA	FAA Service Building	POL	No	Petroleum exclusion; lead present at site likely because of leaded fuels.
56A	FUDS	PNA/WA Residential Building (Three 80,000-Gallon ASTs)	POL	No	Petroleum exclusion; lead present at site likely because of leaded fuels.
56B	BIA	PNA/WA Residential Building (Lead and Asbestos)	Lead and asbestos	No	Nine residents regularly occupy the site. Asbestos and lead-based paint contamination at active facilities regulated under OSHA.
57	FAA	Administration Building	Possible lead	Possible	Site close to Tamgas Harbor (subsistence gathering and recreation area), but no established contaminant migration route.
58	FUDS	DoD Utility Officer Buildings – Quartermaster and Utility Buildings	Possible PCBs, solvents, and lead	Possible	Site adjacent to Tamgas Harbor (subsistence gathering and recreation area); Deer Creek (salmon-bearing stream north of site).
59	FUDS	Air Warning Center Garrison	Possible PCBs	Possible	Site close to Tamgas Harbor (subsistence gathering and recreation area).
60	FAA	Receiver Station	Possible PCBs and lead	Possible	No environmental targets have been identified.
61	FAA	71st Garrison	Possible PCBs; other unknown contaminants	Possible	No environmental targets have been identified.

Key is at the end of the table.

Table 4-1 (CONTINUED)

SITE SUMMARIES
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA

Site Number	Lead Agency	Site Name	Site Contaminants	CERCLA Regulated	Comments
62	FAA	Power House	Possible PCBs and lead	Possible	No environmental targets have been identified; transformer removal in 1992.
63	FAA	Remote Receiver Station	Lead and possible PCBs	Possible	No environmental targets have been identified.
64	FAA	Runway Taxiways and Parking Circles	POL	No	Petroleum exclusion. Lead in site soil addressed in Site 33C.
65	DoD	Runway Fortifications	None suspected	No	No environmental targets have been identified.
66	FAA	High Intensity Light	Possible asbestos	Possible	No environmental targets have been identified; human access is not restricted.
67	FAA	Weather Bureau Station - Near Hangar	POL	No	Petroleum exclusion; lead present at site likely because of leaded fuels.
68	USCG	USCG Water Treatment Plant	Possible PCBs and lead	Possible	No environmental targets have been identified.
69A	USCG	USCG Quarters - POL	POL	No	Petroleum exclusion.
69B	BIA	USCG Quarters - Structure	Asbestos; possible lead and PCBs	Yes	Transformer on site likely from another site.
70	FAA	Beacon Tower	None suspected	No	No environmental targets have been identified.
71A	USCG	USCG Garage - Asbestos	Asbestos and lead	No	Asbestos and lead-based paint contamination at active facilities regulated under OSHA.
71B	BIA	USCG Garage - Other	PCBs; lead and other inorganics	Yes	Electrical equipment removed from site in 1992, but PCBs detected in soil after removal; lead contamination from lead-based paint not CERCLA-regulated as long as facility is active.
72	USCG	Hangar Boiler Building	PCBs; lead and other inorganics	Yes	Wetlands adjacent to the site.
73	USCG	Boiler Building AST	Pesticides, solvents, and lead	Yes	Pesticides present at low concentrations; wetlands adjacent to the site.

Key is at the end of the table.

Table 4-1 (CONTINUED)

SITE SUMMARIES
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA

Site Number	Lead Agency	Site Name	Site Contaminants	CERCLA Regulated	Comments
74	USCG	USCG AST's	Lead; solvents	Yes	Wetlands adjacent to the site.
75	USCG	Hangar	PCBs, pesticides, lead and other inorganics.	Yes	Storm drain connected to local wetlands.
76	FAA	Trailer (Former MoGas-Gas UST Service Island)	POL	No	Petroleum exclusion; lead present at site likely because of leaded fuels.
77	BIA	PNA/WA Terminal	Lead	Possible	No environmental targets have been identified.
78	FAA	Air Traffic Control Tower	PCBs and lead	Yes	No environmental targets have been identified.
79	BIA	Log Storage Yard	POL	No	Petroleum exclusion.
80	FAA	Localizer	Possible PCBs, lead, and asbestos	Possible	No environmental targets have been identified.
81	DoD	Moss Point Garrison	Possible PCBs; other unknown contaminants	Possible	Moss Point Creek located south of site supports cutthroat trout and pink, chum, and coho salmon.
82	DoD	Winnipeg Garrison	Possible PCBs; other unknown contaminants	Possible	Annette Inn Creek (salmon-bearing stream) flows through the site.
83	DoD	Annette Inn Auxiliary Area	Possible PCBs; other unknown contaminants	Possible	Annette Inn Creek (salmon-bearing stream) flows through the site.
84	FUDS	Tokio Garrison	Possible PCBs; other unknown contaminants	Possible	Tokyo Lake located south of site supports cutthroat trout; Tokyo Creek flows from the lake and supports chum salmon.
85	—	Tropospheric Relay Station	PCBs, mercury, and lead	Yes	PCB- and fuel-contaminated soil removed in 1999; no significant targets identified.
86	FUDS	Satellite Tracking Station	Possible lead	Possible	Davison Lake II located 0.25 mile northeast of site; supports cutthroat trout.
87	DoD	Point Davison Garrison	Possible PCBs and solvents; other unknown contaminants	Possible	Surface water and likely groundwater seeps will discharge directly to ocean.

Key is at the end of the table.

Table 4-1 (CONTINUED)

SITE SUMMARIES
METLAKATLA INDIAN COMMUNITY
NON-SAMPLING SITE INSPECTION
ANNETTE ISLAND, ALASKA

Site Number	Lead Agency	Site Name	Site Contaminants	CERCLA Regulated	Comments
88	—	Burned Buildings	Unknown	No	Buildings not individually identified; covered in other features.
89	FAA	Trash Dumps Island Wide	Numerous possible unknown contaminants	Possible	Targets not addressed by individual sites because site locations not identified.
90A	FAA	Fuel Dump Sites (Drums) – Island Wide	POL	No	Petroleum exclusion.
90B	DoD	Debris/Empty Drums	POL	No	Petroleum exclusion.
91	FUDS	Hotspur Island	None suspected	No	No environmental targets have been identified.
92	FUDS	Callaghan Island	None suspected	No	No environmental targets have been identified.
93	FUDS	Warburton Island	None suspected	No	No environmental targets have been identified.
94	—	Other Sites – Remote Trailer	Possible PCBs	Possible	Electrical equipment removal in 1997; site may be synonymous with the Remote Receiver Station (Site 63).

Key is on the next page.

Key:

AACCS = Army Airway Communication System.
 ACS = Alaska Communication System.
 AST = Aboveground storage tank.
 BIA = Bureau of Indian Affairs.
 CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act.
 DDD = dichlorodiphenyldichloroethane.
 DDT = dichlorodiphenyltrichloroethane.
 DoD = United States Department of Defense.
 FAA = Federal Aviation Administration.
 FUDS = Formerly Used Defense Site.
 NWB = National Weather Bureau.
 OSHA = Occupational Safety and Health Administration.
 PCBs = Polychlorinated biphenyls.
 PNA/WA = Pacific Northern Airlines/Western Airlines.
 POL = Petroleum, oil, and lubricants.
 SALSR = Short Approach Lighting System Runway End Identification Lights.
 USCG = United States Coast Guard.
 UST = Underground storage tank.
 VORTAC = Very High Frequency Omnidirectional Range Tactical Aircraft Control and Navigation.

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intentionally left blank.**

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